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Contents

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Icelandic letters:

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

Symbols:

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

Monetary policy statement by the Board of Governors of the Central Bank of Iceland

Policy rate left unchanged

The Board of Governors of the Central Bank of Iceland has decided to leave the Bank's policy interest rate unchanged from the level since December, at 14.25%. Inflation has slowed down and the inflation outlook has improved since the Central Bank's previous forecast in November 2006. This development is due not least to a tight monetary stance and more efficient transmission of the policy rate, along with favourable external conditions. Nonetheless, underlying inflation remains far above the inflation target, and in fact has risen over the past two months.

Lower inflation, a better inflation outlook and a considerable increase in the policy rate in 2006 have caused the policy rate to rise substantially in real terms. Higher yields on indexed and nominal bonds in recent months reflect expectations that the real policy rate will remain high. An impact on lending rates of commercial and savings banks is also evident and could become more pronounced.

The Central Bank's inflation forecast is now presented in a new format. The forecast horizon spans three years and the baseline forecast is based on a policy rate path that the Central Bank's staff considers compatible with bringing inflation down to the 2½% target within that period. This new format will enhance the credibility of the forecast compared with the earlier arrangement, when it was based on an unchanged policy rate over the forecast horizon or on market agents' expectations of the policy rate path, which could be at odds with the Central Bank's own policy communication. According to the baseline forecast, all things being equal, there will be no need to raise the policy rate further and it will remain unchanged until Q4/2007. Subsequently the policy rate is forecast to begin to decrease and will have come down to 6% at the end of the forecast horizon. On this projection, headline inflation will decrease rapidly in 2007, move below the target for some time and remain very close to it from mid-2008 onwards. Underlying inflation, i.e. excluding the effect of cuts in indirect taxation, will also decrease fairly rapidly towards the target, and lie close to it from mid-2008.

The policy rate path in the baseline forecast does not entail a declaration or commitment by the Board of Governors. It should be regarded as an important indicator of the policy rate level required under the current outlook to ensure that the inflation target is attained within the forecast horizon. It depends on economic developments unfolding broadly in line with the inflation forecast. If indicators emerging in the coming months show that demand, employment, the exchange rate and other major drivers of inflation diverge from the current forecast, the policy rate path may well shift from that in the baseline forecast. This will be reflected in policy rate decisions.

The large current account deficit and very tight labour market entail a long-term inflationary risk, i.e. that inflation will exceed the baseline forecast. Notwithstanding a substantial shrinking of the current account deficit, it is a cause for concern that even with the sizeable contraction in domestic demand in the baseline forecast, it will still not have reached a sustainable position at the end of the forecast horizon. A downturn in global financial conditions could, for example, increase the cost of funding the deficit, causing the króna to depreciate and the inflation outlook to deteriorate once more, especially if the labour market is so tight as to pose the risk of a wage-price spiral. The Central Bank will then need to make a firm response to such a development. An alternative scenario to the baseline forecast describes the Central Bank's probable response to a substantial exchange rate shock.

Another risk that must be heeded involves plans for further investment in aluminium production facilities and accompanying power plants. If the planned projects go ahead during the forecast horizon, they will slow down the closure of the output gap, which is a precondition for a lasting reduction in the inflation rate. In such a case it could prove necessary to raise the policy rate, or at least keep it high for longer than is implied by the baseline forecast in order to contain inflation, as described in a second alternative scenario. This would squeeze profits in the traded goods sector, and thus create sufficient space for these investments so that inflation would remain close to target. If such investments go ahead, therefore, it is vital for decisions on their timing and speed to take macroeconomic conditions into account.

The next interest rate decision by the Board of Governors of the Central Bank will be announced on May 16.

Economic and monetary developments and prospects[1]

Extensive adjustment ahead

The tight monetary stance over the past half-year has brought considerable results, even though inflation is still above target and appears set to remain so for some time, at least if one looks beyond the temporary effects of lower consumption taxes on measured inflation. Inflation has decreased somewhat since the Central Bank published its macroeconomic and inflation forecasts in November and the short-term inflation outlook has improved. A tight monetary stance subdues demand growth and contributes to a strong króna, thus preventing the surge in wages over the past year from being passed unhindered to domestic prices. But it is too early to celebrate victory over inflation. Part of the recent disinflation is explained by factors that are or could prove short-lived, such as tax effects, base effects, a fairly strong króna and lower fuel prices. The enormous current account deficit in 2006 signals a need for extensive macroeconomic adjustment that partly could be channelled through exchange rate pressures, especially if conditions in global capital markets deteriorate. Global liquidity conditions may critically affect the timing and scope for easing the monetary stance. The inflation forecast presented below indicates that the policy rate needs to be kept close to the current rate until Q4 this year, even if the exchange rate remains relatively stable. Less favourable exchange rate developments or a new phase of investment in the aluminium and power sectors could require a rise in the policy rate and defer the monetary easing even further. Demand will contract substantially over the coming years, if the baseline forecast holds. However, the current account deficit would remain very large over the forecast horizon even though the trade deficit will have all but disappeared. Hence exchange rate developments may turn out less favourable than assumed in the forecast.

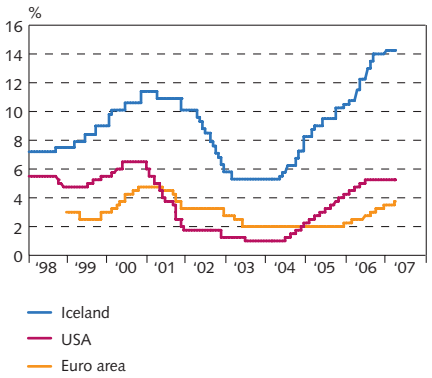
I Inflation outlook and monetary policy

Inflation lower than forecast, but substantial imbalances cloud the long-term outlook

The policy interest rate was increased by 3.75 percentage points in 2006, most recently by 0.25 percentage points in December to 14.25%. As a result of the tight monetary stance, inflation over the past six months turned out considerably lower than the Central Bank's forecasts in July and November had indicated. Inflation expectations are also quite markedly lower. High short-term interest rates and relatively favourable international financial conditions bolstered the króna over the past five months compared with the November forecast, and global oil and petrol prices fell. Furthermore, wages have risen by less than was assumed in previous forecasts.

The outlook is for considerably lower inflation over the next three months, in particular due to a substantial base effect when the inflationary spike in spring 2006 is no longer included in the twelve-month index measurements. In fact, the base effect was also felt in March, but the main driver of the drop in headline inflation then was a cut in indirect tax rates. In spite of the strong base effect in March, inflation rose to 7.7% if the tax effect is excluded, and underlying inflation reached its highest level since 2002. Nonetheless, both underlying and headline inflation appear likely to decrease rapidly over the next few months. The intensity of the base effect's contribu-

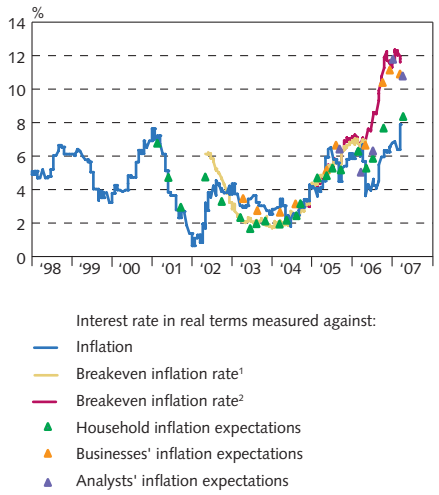
Chart I-1
Central bank policy interest rates
Daily data January 1, 1998 - March 22, 2007



Sources: Reuters EcoWin, Central Bank of Iceland.

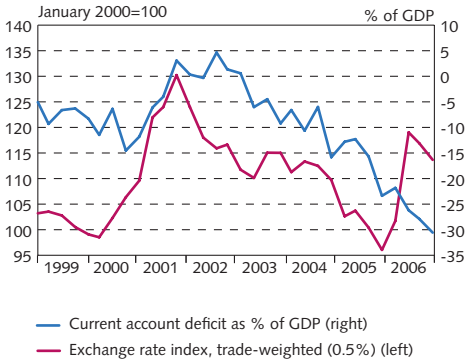
1. This article uses data available on March 27, 2007 but the forecast is based on data until March 15.

Chart I-2
Central Bank policy interest rate in real terms
Weekly data January 7, 1998 - March 27, 2007



1. Spread between RIKB 13 0517 and RIKS 15 1001 2. Spread between RIKB 13 0517 and HFF150914. Household, business and analysts' inflation expectations are based on inflation one year ahead.
Source: Central Bank of Iceland.

Chart I-3
Current account deficit and exchange rate developments
Q1/1999 -Q4/2006



Sources: Statistics Iceland, Central Bank of Iceland.

tion to disinflation over that period will largely depend upon whether the króna retains its current strength.

Demand growth and the current account deficit were underforecast

Although some progress has been made, the disinflation process is not as firmly in place as would be desirable. Domestic demand growth has decreased by less than was previously forecast. Coupled with subdued exports and growing external interest payments, this caused the current account deficit to widen substantially in the second half of 2006, instead of the forecast contraction. Thus the outlook for achieving a sustainable current account balance within the space of a few years has deteriorated, unless domestic demand shrinks by more than previously forecast. The exchange rate could thus come under pressure if global financial conditions turn downwards and the deficit becomes more difficult to fund. A rapid depreciation of the króna could channel the lagged pass-through of last year's higher wage costs to the price level, thereby fuelling further wage drift.

The medium-term outlook will depend on the timing and channels of macroeconomic adjustment. A current account deficit on the scale measured in 2006 indicates that a sharp contraction of domestic demand is a prerequisite for lasting price stability. A delayed adjustment would imply further accumulation of net external debt, hence an even bigger deficit on the income account, and ultimately a larger cumulative adjustment required to bring the external accounts into a sustainable position. In particular, investment in 2006 is estimated to have overshot forecasts and the contraction this year is smaller than previously forecast. Business and household confidence surveys, real estate market indicators, continued strong employment growth despite a domestic labour shortage and robust capital goods imports all indicate that gross fixed capital formation is still running high. The above indicators and other data published in recent months corroborate the Central Bank's view that the interpretation of the low GDP growth shown in preliminary national account figures for Q3/2006 as a sign of abrupt easing of inflationary pressures in the economy, as was claimed in some circles, was not appropriate. Recent data support the Central Bank's assessment, on which the policy rate hike in December was based, that there was a need for monetary policy to remain tight over an extended period.

New baseline forecast design

The Central Bank's macroeconomic and inflation forecasts are presented here in a new form. The baseline forecast assumes a policy interest rate path that the Bank's staff considers optimal for attaining the inflation target. The policy rate path is chosen with the aim of bringing inflation as close as possible to 2½% within an acceptable timeframe and stabilising it close to that target afterwards. In this way, monetary policy can provide a credible anchor for inflation expectations. If inflation is close to target and inflation expectations remain steady around it, there may be some scope for taking output and

unemployment fluctuations into account when the policy rate path is decided, but such conditions are currently not at hand.

Confidence limits are presented for the policy rate to underline the uncertainties surrounding the forecast. Forecasts for the output gap, inflation and the exchange rate are presented in the same format. The Central Bank underlines that the policy rate path is based on current data and is liable to change over time as new data become available.

Alternative scenarios for unfolding economic developments are also taken into account in determining the policy rate path and its confidence limits. The confidence limits are conditioned on achieving an acceptable inflation scenario, at least in the medium run, even if the alternative scenarios actually materialise.

Another change in the presentation of the baseline forecast is a lengthening of the forecast horizon. This is necessary in order to allow the rationale behind the chosen policy rate path to be properly explained. An endogenous policy rate path is a precondition for economically meaningful and consistent long-term forecasting.

Benefits of publishing an optimal policy rate path

There are three main benefits of presenting the baseline forecast with a policy rate path that aims to attain the inflation target within the horizon. First, forecasting quality should improve since all data available to the Central Bank's forecasters are used. Second, the risk of the Central Bank's inflation forecasts fuelling inflation expectations by showing inflation above target without inducing a monetary policy response should be reduced. Third, expectations of households, businesses and market agents about the policy rate path ought to align more closely to the Central Bank's own expectations about the policy rate path. This should facilitate monetary policy transmission via the interest rate channel. However, the Central Bank of Iceland has not moved as far towards greater transparency as have the central banks of New Zealand, Norway and Sweden, which publish the expected policy rate path of their monetary policy decision makers, rather than staff. The main advantage of such a commitment is to strengthen even further the Central Bank's impact on market expectations about the policy rate path.[2] The Board of Governors of the Central Bank of Iceland is considering whether to take such a step later, in view of the experience of the current arrangement.

A high policy rate is necessary to attain the inflation target

The baseline forecast in Chart I-4, which is discussed in more detail in the following sections, shows the policy rate path that the Central Bank staff considers compatible with the target of bringing inflation down to roughly 2½% over the forecast horizon (see Chart I-4a).[3] In order to attain this target, the policy rate will have to remain unchanged until Q4/2007, then be lowered, and at an increasingly

2. Discussed further in the paper by Thorvardur Tjörvi Ólafsson on p. 71 of this issue of *Monetary Bulletin*.

3. Estimation of the confidence limits is discussed in more detail in Box IX-1 on p. 56.

Chart I-4
Baseline scenario in *Monetary Bulletin* 2007/1
Forecasting period: Q1/2007 - Q4/2009

Chart I-4a
Policy rate

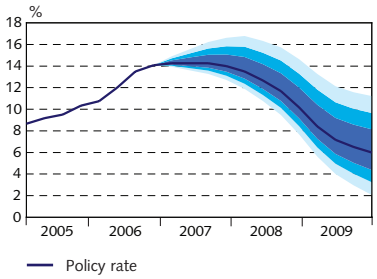


Chart I-4b
Effective exchange rate

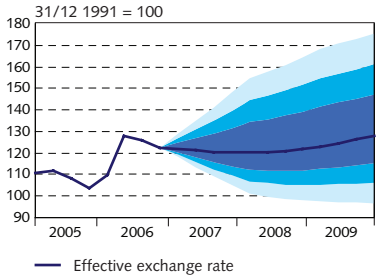


Chart I-4c
Output gap

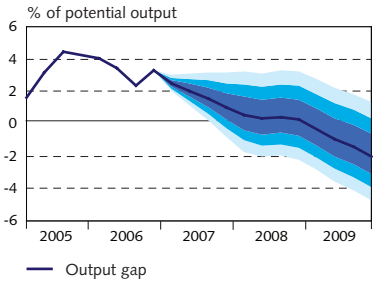
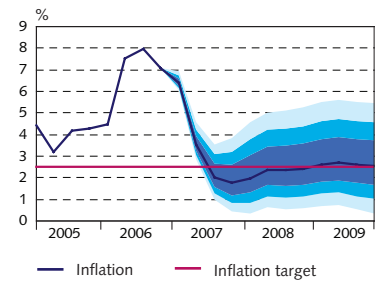


Chart I-4d
Inflation



Sources: Statistics Iceland, Central Bank of Iceland.

faster pace in 2008. However, the probability that the policy rate will need to be raised even further is considered greater than that it can be lowered before the juncture shown in the baseline forecast.

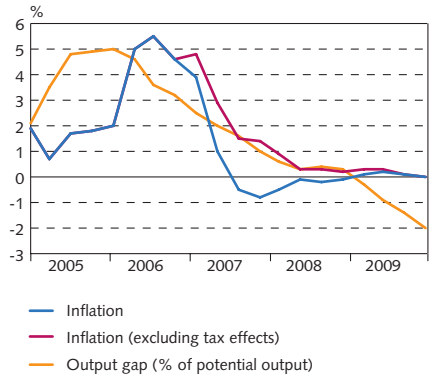
Given that the current baseline forecast uses different policy rate assumptions, it is not directly comparable with the November 2006 baseline forecast. A more meaningful analysis of how the inflation outlook has changed since the November forecast can be obtained by comparing the policy rate path underlying the alternative scenario based on an endogenous monetary policy response in *Monetary Bulletin* 2006/3, although certain qualifications should be made for that comparison as well. The alternative scenario in November was much closer to a pure model forecast than the current baseline forecast. Nonetheless, the current baseline forecast implies that the policy rate does not need to be as high as in the November alternative scenario in order to attain the inflation target. The main reasons are a lower initial inflation rate, smaller wage rises and a stronger króna over the first part of the forecast horizon than were expected in November. Moreover, staff's judgement concerning certain factors such as housing market developments plays a larger role (see Chart I-4d).

Sharp contraction in demand over the next three years

This outlook is underpinned by a 16% contraction in domestic demand over 2007-2009 and a 1% decrease in GDP in 2009. As a result, the

output gap would close by the end of 2008 and turn negative in 2009-2010 (see Chart I-4c). Unemployment could rise to 5% in 2009, based on these assumptions. A narrowing output gap will consolidate disinflation and is a precondition for lowering the policy rate fairly rapidly in 2008 (see Chart I-5). This prompts the question of whether the inflation target can be attained over a longer horizon at less cost. The current large divergence from the inflation target and scale of macroeconomic imbalances severely cramp the Central Bank's scope for applying countercyclical monetary policy measures. A contraction is in effect unavoidable, a direct consequence of overheating in recent years. A delayed adjustment towards the inflation target might undermine the credibility of monetary policy and serve to fuel chronic high inflation expectations. Were this to happen, disinflation would entail even greater costs. In a worst-case scenario, an untimely reduction in the policy rate could erode confidence in the króna among foreign and domestic investors, inducing a depreciation of the króna to the extent that it would amplify the contraction instead of softening it.

Chart I-5
Divergence of inflation from target and output gap

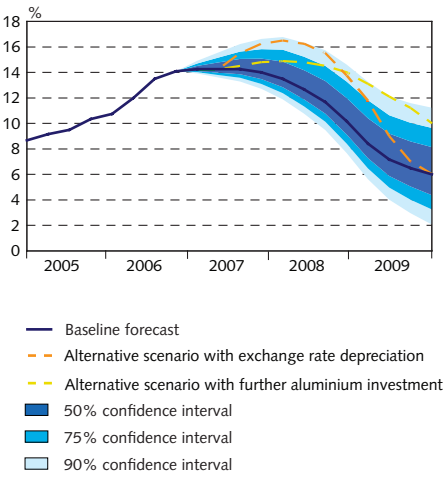


Sources: Statistics Iceland, Central Bank of Iceland.

Major risk of adverse exchange rate developments, which would need to be addressed

Notwithstanding that the probability of attaining the inflation target within the forecast horizon with the current policy rate has increased, the risk to the outlook is mainly on the upside. The exchange rate is an important driver of inflation. In the baseline forecast the exchange rate path is determined by the interest rate differential with abroad and the deviation of the real exchange rate from its long-term level. According to this rule, the króna will remain fairly stable and strong throughout the forecast horizon. However, the probability of a weaker króna than assumed in the baseline forecast is judged to be higher than a stronger króna (see Chart I-4b). The forecasting record of the abovementioned method for projecting an exchange rate path is not good and the outcome should not be interpreted as a forecast. However, there is no better alternative. Exchange rate determination is always subject to great uncertainty, but exceptionally so at present due to two strong opposing forces: the enormous current account deficit that needs to be funded and the wide interest rate differential with abroad, which may be regarded as the incentive required to attract sufficient investment in króna-denominated bonds to fund a deficit that has become unsustainably large. Market confidence in the Central Bank's monetary policy makes an important contribution towards balancing these two forces.

Chart I-6
Policy rate – alternative scenarios
Forecasting period: Q1/2007 - Q4/2009

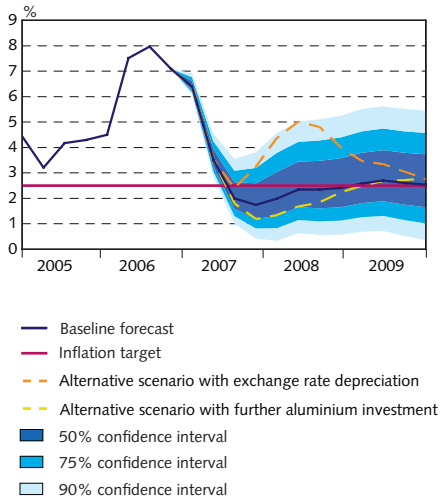


Source: Central Bank of Iceland.

Perceptions in international capital markets are highly volatile and are partly shaped by changes in international financial conditions, which are beyond the Central Bank's control. Increased risk aversion among foreign lenders to Iceland, e.g. after a rise in interest rates among trading partner countries or an economic downturn in Iceland or other high-interest countries, could complicate funding of the current account deficit. A possible consequence would be a sharp depreciation of the króna. Box IX-2 on p. 58 describes an alternative scenario showing an endogenous monetary response to such a shock. It estimates the consequences for monetary policy of a 20%

depreciation of the króna in Q3-Q4/2007, prompted by tighter global financial conditions. To attain the inflation target within the forecast horizon would require the policy rate to rise by just over two percentage points from the baseline path (see Charts I-6 and I-7). The contraction in demand and GDP in 2009 would be correspondingly greater. However, the cost of an insufficient response could turn out greater still if it implied an excessive depreciation of the króna, with an accompanying inflationary impact. A heavy price would ultimately be paid if persistent inflation were to erode confidence in monetary policy and cause inflation expectations to rise considerably again.

Chart I-7
Inflation – alternative scenarios
Forecasting period: Q1/2007 - Q4/2009

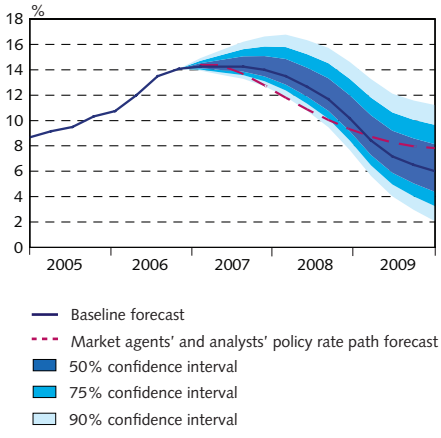


Sources: Statistics Iceland, Central Bank of Iceland.

Further aluminium sector investment could alter the outlook substantially

Another alternative scenario described in Box IX-2 assumes that the Alcan smelter in Straumsvík will be expanded, followed by construction of a smelter in Helguvík. If these projects go ahead a high policy rate will need to be maintained for considerably longer than assumed in the baseline forecast, and it may even have to be raised further (Chart I-6). The positive output gap and labour market tension would continue to be substantial. If the inflation target is to be attained within the horizon, the policy rate would not start on a declining path until around mid-2008. The FDI-induced capital inflow and the resulting widening of the interest rate differential with abroad could cause the króna to appreciate temporarily, partially offsetting the increased output gap in the short run. Inflation could therefore dip temporarily before the projects enter full swing, then rise again towards target (Chart I-7). However, these investments would be accompanied by an even wider current account deficit and greater probability of persistent inflation. These findings ought to prompt the authorities to consider the macroeconomic impact carefully when making decisions on the timing and intensity of investment projects. Preferably, the investment plans portrayed in the alternative scenario should be considerably more staggered.

Chart I-8
Policy rate
Baseline forecast and expectations of market agents and anaysts
Forecasting period: Q1/2007 - Q4/2009



Source: Central Bank of Iceland.

Under what circumstances can the Central Bank begin to lower the policy rate?

The Central Bank's assessment of macroeconomic conditions and probable policy rate developments has for some time diverged considerably from the prevailing view in the markets and among financial analysts. In the Central Bank's view, market expectations of the timing of prospective policy rate easing have been quite unrealistic. The Bank's forecasts have invariably indicated that, given the policy rate path expected by the markets, inflation would remain considerably above target throughout the forecasting horizon and even drift away from it. However, recent data show a considerable convergence between expectations of financial analysts and Central Bank forecasters (see Chart I-8).

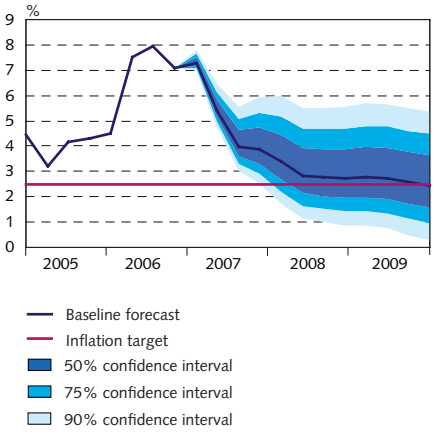
It has sometimes been argued that significantly slower growth in demand gives adequate grounds for lowering the policy rate. This is a misunderstanding. First, it should be reiterated that the Central Bank targets inflation, not short-term output growth; the motive behind

the inflation target is to enhance long-term prosperity through price stability. Over and above its interaction with the output gap and inflation, GDP growth only affects the Bank's policy if inflation is close to target and looks set to remain there even if the stability of output and employment is given some weight in its decisions, i.e. provided that the credibility of the inflation target will not be put at risk. Second, slower output growth does not necessarily imply a rapidly diminishing output gap. This depends on how fast output has grown in excess of potential. The output gap could still close too slowly to be compatible with the inflation target. Third, the Central Bank's scope for easing the monetary stance depends critically on whether the external balance of the economy is sufficiently close to a sustainable position that exchange rate stability will not rest entirely on a very wide interest rate differential with abroad. As long as labour market tension remains at the current level, it is vital that the króna does not weaken excessively. Otherwise there is a risk of a wage price spiral that would lead to chronic inflation and cause inflation expectations to become entrenched, especially if confidence in monetary policy is tarnished.

An unemployment rate in the range 2½-3% could be compatible with price stability. A reduction in the policy rate could begin some time before unemployment has reached this level, but its trend towards balance must at least be beyond doubt.

Monetary policy can only be eased if underlying inflation is clearly on a declining trend and the prospects of attaining the target within a relatively short time are favourable. In other words, a lasting process of disinflation must be under way, in the Central Bank's view. This means that the Central Bank will not pounce on the first signs of disinflation, but assess underlying inflationary pressures and the inflation outlook from a broad perspective. In this context it should be reiterated that a drop in headline inflation caused by tax cuts is not considered lasting. The baseline forecast projects a fairly rapid reduction in inflation even when the tax effect is excluded (see Chart I-9), which is the precondition for lowering the policy rate before the end of 2007. The permanency of disinflation must also be judged in terms of the movement of the current account deficit towards sustainability and the easing of labour shortages. Without this, the grounds for a lasting reduction in the inflation rate are extremely weak.

Chart I-9
Inflation (excluding effects of indirect tax cuts)
Forecasting period: Q1/2007 - Q4/2009



Sources: Statistics Iceland, Central Bank of Iceland.

The Central Bank will not hesitate to respond to changes in the inflation outlook

With the policy rate forecast presented in this issue of *Monetary Bulletin*, a major step has been taken towards making monetary policy more transparent and effective. One of the chief motives is to facilitate market agents in foreseeing how the Central Bank responds to a changed inflation outlook and arranging their own responses accordingly. The policy rate path in the baseline forecast and two alternative scenarios provides a good overview of the way that a central bank committed to price stability will respond to different economic circumstances. The Central Bank will continue to enhance the implementation and presentation of its monetary policy, guided by its mandatory objective.

The Central Bank seeks ways to improve the effectiveness of its monetary policy

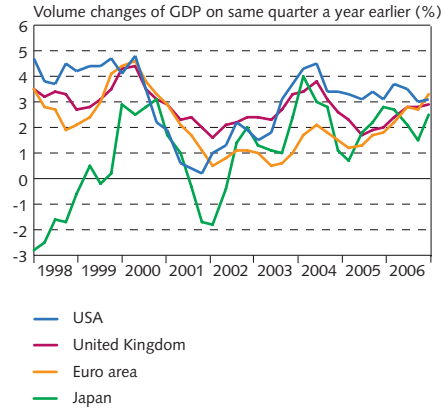
In recent years, doubts have occasionally been raised about the effectiveness of the Central Bank's monetary policy. To some extent this debate has been coloured by exaggerations. Nevertheless, various factors have blunted the monetary policy weapon over the past few years. Iceland is not, however, the only country to find the effectiveness of its monetary policy questioned in the era of globalisation. There has recently been some debate about the conceivable consequences if financial companies were to switch their accounting to foreign currencies instead of the króna. It has been claimed that such a measure could even render monetary policy impotent. This is a misunderstanding, as discussed in Appendix 1 on p. 61. Existing regulation must be enforced, however, whatever its merit.

However, it cannot be denied that there have been a number of shortcomings in the efficiency of markets that are important for monetary policy transmission, impairing its effectiveness to some extent in recent years. For example, interest rate formation in the money markets has been abnormal, as reflected in excessive spreads between money market yields and the policy rate, and in highly volatile overnight interest rates. The Central Bank has taken measures that appear to have contributed to more efficient money markets. Pricing in the bond market has been equally flawed, partly because of scant Treasury issuance. The Central Bank emphasises that the Treasury should perform its role of maintaining an active bond market through adequate issuance, even though it has no fiscal requirement for doing so. Efficient bond and foreign exchange markets are a precondition for effective transmission of monetary policy via the interest rate and exchange rate channels. The Central Bank will continue to seek ways to enhance the effectiveness of monetary policy in all areas. The Central Bank's most important contribution in this respect, however, is to pursue a credible monetary policy that provides an adequate anchor for inflation expectations.

II External conditions and exports

Overall external conditions are very favourable for the Icelandic economy. While fish catches were on the low side in 2006, the outlook for 2007 has improved. More importantly, prices of marine products and aluminium are buoyant and foreign financial conditions remain highly favourable. However, the global economic position was still characterised by considerable imbalances, which could ultimately have a negative impact on economic developments in Iceland. Increased aluminium production will cause a surge in exports in 2007 and 2008, but aluminium prices are forecast to fall and oil prices to rise over the next two years, based on futures prices. Thus the terms of trade are forecast to deteriorate significantly in 2008 and 2009.

Chart II-1
International economic developments
Q1/1998 - Q4/2006
Economic growth in main trading areas



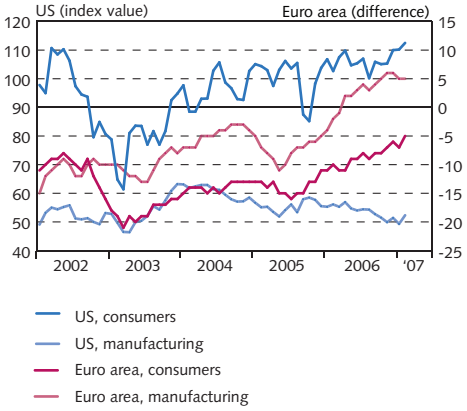
Source: Reuters EcoWin.

Growth in the euro area firms

In 2006, output growth in the euro area measured 2.6%, the highest rate of growth since 2000. Since it is increasingly driven by domestic demand, the economic recovery has been put on a firmer foundation than before, when the main driver was export growth. One explanation for this robust domestic demand growth has been a reduction in unemployment, from 8.3% in January 2006 to 7.5% in December.

Germany's value-added tax hike appears to have affected private consumption less than was expected. However, the increase may still not have been passed on in full to retail prices. Be that as it may, households in the euro area are upbeat. The euro area confidence index is at its highest for more than five years (see Chart II-2). On average, house prices in the euro area rose by 7% in 2006, and by much more in certain member countries. In France, for example, house prices increased by 15% over the year, as they did for the three preceding years. Inflation was some way above 2% in the euro area for most of 2006, although towards the end of the year it slowed markedly when oil prices dropped. Inflation in February 2007 measured 1.9%, which is within the ECB target. Sharp swings in inflation cannot be ruled out this year, partly on account of Germany's VAT hike and the base effect of volatile oil prices. In the long run the outlook is for considerable underlying inflationary pressures, mainly driven by wage rises and the second-round effect of rising oil and commodity prices.

Chart II-2
Euro area and US confidence indicators
January 2002-February 2007

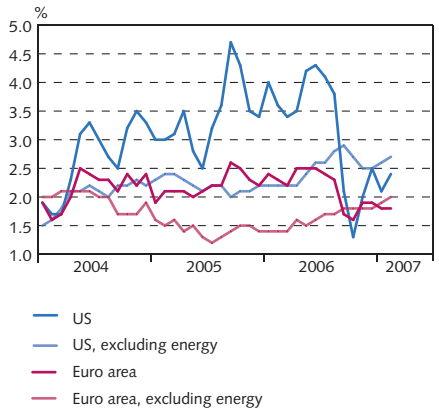


Source: Reuters EcoWin.

Subdued housing market dampens US growth

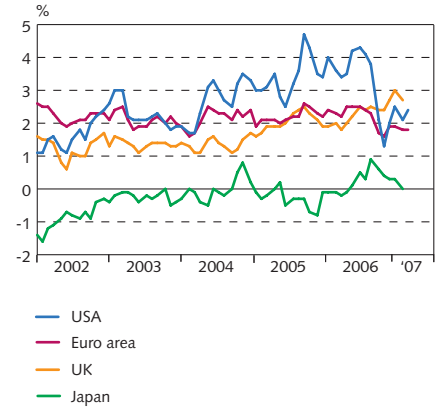
According to preliminary estimates, GDP grew by 3.3% in the US in 2006. After a surge in Q1/2006, growth slowed quite sharply over the rest of the year. The chief brake on GDP growth was a contraction in residential investment, by an annualised 16% over the past three quarters – the sharpest decline since 1990. Delinquency has been on the increase among sub-prime mortgage borrowers. So far, there has been no contagion from the depressed real estate market to other sectors. The employment situation is healthy, corporate profits are strong and private consumption growth was robust over the year in spite of the real estate market reversal.

Chart II-3
Inflation in the US and euro area
January 2004 - February 2007
Inflation including and excluding energy prices



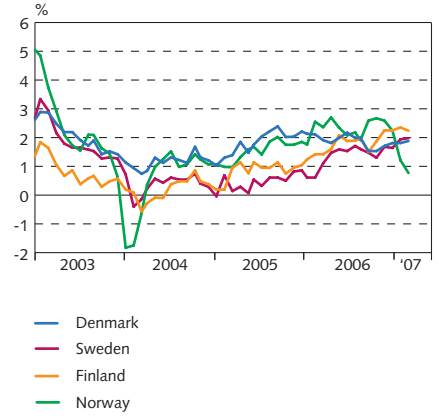
Source: Reuters EcoWin.

Chart II-4
Inflation in the USA, UK, Japan and euro area
January 2002 - February 2007[1]



1.February data for euro area and US only.
Source: Reuters EcoWin.

Chart II-5
Inflation in the Nordic countries
January 2003 - March 2007



Source: Reuters EcoWin.

That said, the contraction in residential investment is expected to dampen GDP growth substantially in 2007. If decreased demand causes house prices to fall, the wealth effect that has been a leading driver of household expenditure growth will be subdued. Import growth is expected to slow down later in the year, and export growth to gain pace. Some narrowing of the current account deficit should result. Inflation has been slowing down in the US in recent months in the wake of lower oil prices, but core inflation excluding energy prices is broadly unchanged.

Robust GDP growth in the UK and the Nordic countries in 2006

GDP growth picked up in the UK in 2006 to 2.7%, after dropping to a thirteen-year low in 2005. Investment increased by 6% year-on-year and private consumption by 2%. Twelve-month inflation in January was still some way above target, but had decreased to 2.7% from 3% the previous month.

The Nordic countries experienced robust year-on-year GDP growth in 2006. The outlook is more subdued in 2007, according to Consensus Forecasts (CF), which projects GDP growth in the range 2-2½% in Denmark, 2½-3% in Finland and over 3% in Norway, where house prices have surged recently. Sweden has witnessed an even stronger upswing, with GDP up by 4½% in 2006. Like the other Nordic countries, Sweden's GDP growth is expected to slow down in 2007, but CF still forecasts a robust 3½%.

Japanese recovery consolidated and meteoric growth continues in China

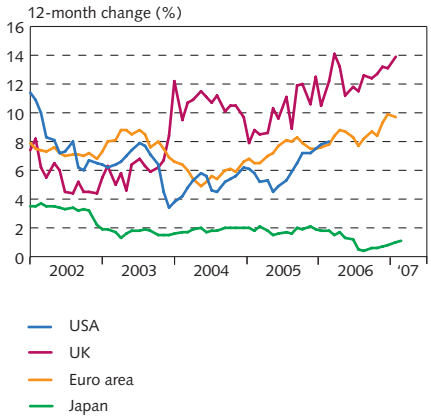
Considerable uncertainty still surrounds the sustainability of Japan's economy recovery. GDP growth figures for Q4/2006 indicate that a sizeable recovery took place, although performance was rather bumpy over the year. After robust growth in Q1 it slowed down quite sharply in Q2 and Q3, but annualised quarter-on-quarter growth in Q4 amounted to 5.5%, the highest rate of growth recorded for three years. By the end of the year, growth had spread to most sectors, but was strongest in investment and private consumption. GDP rose by 2.2% in 2006, which is considerably below most forecasts last year. However, this is probably partly explained by a change in methodology for calculating and presenting the national accounts. The outlook for 2007 is favourable. Low inflation and rising employment should bolster private consumption, and business investment gained pace towards the end of 2006. Nonetheless, GDP growth is expected to slow down year-on-year, for example to 1.9% according to CF.

GDP growth keeps on soaring in China, at a rate of 10.7% in 2006 according to official figures. Gross fixed capital formation increased by a brisk 24% in 2006, on the back of 26% growth the previous year. Retail turnover was up by almost 14% and exports by 30%. Despite bristling growth, official figures put inflation at a mere 1.7% last year. Rather slower growth is likely in 2007, partly due to expected government measures aimed at dampening investment.

Development of external conditions still highly uncertain

Ongoing robust growth in global production could contribute to wage inflation and further rises in commodity prices. Rapid growth in money supply and credit in the second half of 2006, especially in the euro area (see Chart II-6), could indicate that long-term inflationary pressures will mount. Wage rises have been moderate in recent years both in Europe and the US. If demand continues to grow in Europe it could drive up wages, which would call for a tighter monetary stance. The ECB has gradually reduced the accommodative stance it has maintained in recent years and the outlook is for continued tightening in measured steps. The need for faster changes would increase the risk that current imbalances in the global economy could provoke a hard landing in countries with very large deficits, which includes Iceland.

Chart II-6
Growth of money supply (M3)
January 2002 - January 2007

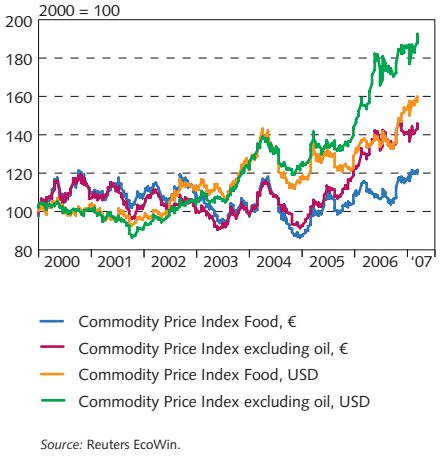


Source: Reuters EcoWin.

Possibility of a recession in the US

Another uncertainty is the conceivable impact of a more rapid reduction in US GDP growth than is currently expected, or even a recession. As discussed in earlier issues of *Monetary Bulletin*, the expansion phase of the current global business cycle has largely been driven by firm US demand, although China has been playing an increasing role. While at present the sources of growth are to some extent more diffused than in recent years, as evidenced by rising demand in Europe and Japan, a recession in the US would clearly have a marked effect on most economies in the world. The risk of a recession could be compounded if a major hike in oil prices went hand in hand with a sizeable depreciation of the US dollar, amplifying inflationary pressures in the US. The housing market could shrink more sharply as a result, and a drop in real estate prices could be detrimental to private consumption.[1]

Chart II-7
World market commodity prices
Weekly data January 7, 2000 - March 16, 2007



Source: Reuters EcoWin.

Overinvestment in China could provoke a contraction

Investment has been running at enormous levels in China in recent years. The pace of expansion entails a risk of overinvestment and problems in the financial sector. Increases in nonperforming loans could indicate that credit growth has been excessive. Strong global demand for cheap consumer goods has hitherto sustained heavy investment in the manufacturing sector. An economic contraction in the US, on the other hand, would cut back its imports from China – and therefore output growth in China – unless offset by greater private consumption in Europe or elsewhere. More sluggish GDP growth in the US and China could have a sizeable impact on prices of commodities including aluminium, which would have strong repercussions in Iceland. *Global Insight* estimates that a five percentage-point drop in China's GDP growth would trim back global output by 0.3 percentage points.

Oil prices could rise substantially again

Oil prices have fallen considerably in recent months, in part because of the mild winter in the northern hemisphere. However, much uncertainty surrounds oil prices at present, and the risk appears to be to

1. According to *Global Insight*, such a development could reduce global GDP growth by 0.5-0.7 percentage points from current forecasts.

the upside. The main uncertainties on the supply side are linked to geopolitical uncertainty and tensions in the Middle East, resource nationalism in Venezuela, Russia, Ecuador and Bolivia and targeting by militant groups of oil interests in Nigeria.

Poor fish catch in 2006 but improved outlook this year

The total fish catch last year was the lowest since 1992. Main factors were a decline of 410 thousand tonnes in the capelin catch and 1% in the demersal catch compared with the previous year, while the shrimp catch was down by half. Measured at constant prices, the fish catch decreased by 4.7% in 2006. Export value of marine products rose by 1%, measured at constant exchange rates, but volume shrank by more than 6% year-on-year in real terms. In foreign currency terms, prices of marine products rose by roughly 7%.

More quotas for the fishing season that began on September 1 remained unfished at the end of last year than at the end of 2005, especially for more valuable species. The extra quotas are likely to be used in the spring and summer.

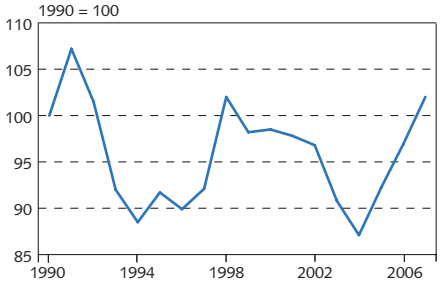
The total allowable catch (TAC) has been lowered somewhat for cod for the current fishing season, but is broadly unchanged for other demersal species. The redfish stock has shrunk in recent times, so the catch will decrease over the next few years. For other demersal species than cod, the outlook is for similar or larger catches this year compared with 2006. Capelin catches are always difficult to forecast. Some migrating stocks were found in November and the TAC was set at 300 thousand tonnes, which is 65% more than the actual catch last year. The capelin fishery has gone smoothly. A substantial amount has been processed for human consumption, generating more value, and capelin meal prices have not been higher for many years, so the extra catch represents a significant windfall. The herring catch is expected to be 25 thousand tonnes higher in 2007; catch value has increased substantially in recent years due to better utilisation and a larger share of processing for human consumption.

The baseline forecast for marine exports has been revised upwards to an increase of 4% in real terms, from a 2% contraction in the previous forecast in November. Catch and export value for 2008 are difficult to estimate. The state of the capelin stock is highly uncertain and catch volume fluctuates widely from one year to the next. The bleak outlook for the redfish stock mentioned above could prompt a further cut next year in the TAC for deepwater redfish. Other demersal quotas may be expected to remain unchanged. The TAC for blue whiting is likely to be cut in 2008. Total catch value and exports next year will hinge on the capelin harvest. In the current forecast, catch value and export value are assumed to remain unchanged in 2008.

Marine product prices close to historical peak

Market prices of marine products began rising towards the end of 2004 and have continued upwards ever since (see Chart II-8). In foreign currency terms, marine product value (excluding fresh fish) rose 8.4% year-on-year in 2005 and prices rose by 7.3% on average in 2006. Price rises of fresh fish (on ice or chilled) have generally outstripped other

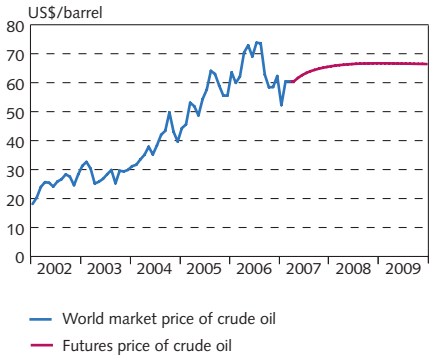
Chart II-8
Export prices of marine products[1]



1. Deflated by the weighted CPI in main trading partner countries. Annual data for 1990-2006, latest value for January 2007.
Source: Statistics Iceland.

demersal products in recent years, so somewhat larger increases can be expected than these figures show. For much of the period, higher prices were sustained by demersal species, especially frozen-at-sea products, which have risen by roughly one-third since 2004. Fish meal and oil prices have risen in the past eighteen months by three-quarters from mid-2005 prices. Virtually all demersal markets are robust and Icelandic products have enjoyed a strong competitive position. Increasing demand has coincided with decreasing supply. Demand for chilled seafood and readymade fish meals has been growing, and so have sales. An increased focus on freshness and healthiness, especially at the wealthier end of the market, has driven up consumption of seafood. For example, in the UK (Iceland's largest market), consumption of marine products per household increased by 6% last year and sales of fresh seafood by even more at 10%. This trend has pushed up prices over the past two years. Market agents broadly agree that substantial price rises beyond what has already been achieved are hardly feasible. Hence, prices at the beginning of 2007 are likely to be close to a peak. In any case, price increases over the coming months should be modest compared to recent years. The fish meal and fish oil segment faces a similar scenario. Demand from new fish farming ventures in North Europe, South America and Asia continues to climb, driving up prices at the same time as supply has been restricted by lower catches. Prices are considered likely to remain broadly unchanged in the medium term. The baseline forecast assumes a year-on-year increase of 5% in marine product prices in 2007, 3% in 2008 and 2% in 2009 (see Chart II-10).

Chart II-9
World market price of oil
Monthly data January 2002 - December 2009



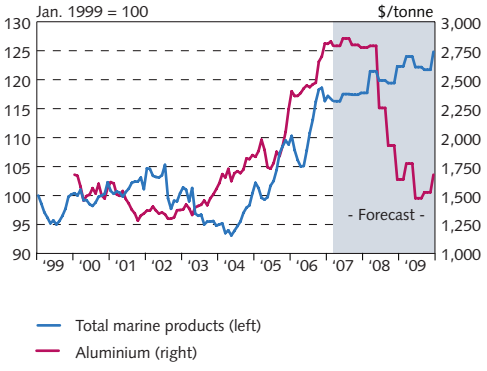
Sources: Bloomberg, NYMEX, Reuters EcoWin.

Futures prices imply that oil prices will rise and aluminium fall

Oil prices began to fall from the end of summer 2006 and in January 2007 they were 30% down from the peak in July 2006, but have since edged upwards. Average oil prices in Q1/2007 were 12% lower than the average for last year. Futures prices show an increase this year and into 2008 (see Chart II-9). The forecast assumes that oil prices in 2007 will be 5% lower than in 2006, based on annual averages. This trend is expected to reverse later this year and annual average prices for 2008 will be 7% higher than in 2007. Prices in 2009 are forecast to remain virtually unchanged from the year before.

Aluminium prices have soared in recent years, almost doubling since the end of 2003. Nonetheless, aluminium prices have risen less than certain other metals such as copper. Metals prices have been driven by rapid demand growth in China and other Asian countries, higher GDP growth in developed countries and rising production costs caused by higher electricity and alumina prices. Brisk sales have depleted inventories at the same time as prices have risen. Consumption is estimated to have outstripped production by 300-400 thousand tonnes in 2006. Inventories are expected to remain tight in the first half of 2007 with production struggling to match demand until balance is restored later in the year. Prices should therefore remain buoyant for much of 2007. However, excess supply is projected for 2008, when global production picks up while demand holds steady or even shrinks. Production costs are expected to begin to fall then, and the positive impact that hedge funds and speculator

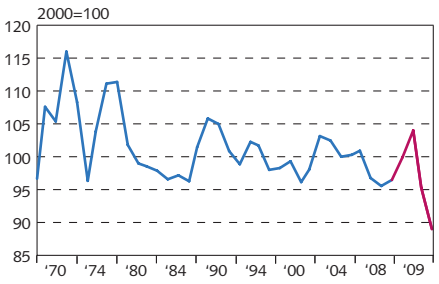
Chart II-10
Prices of marine exports and aluminium



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

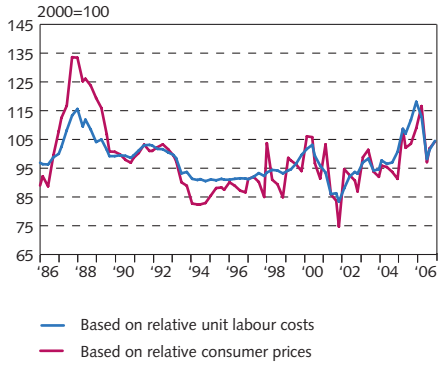
activity have on prices will diminish. Futures contracts indicate that aluminium prices will turn downwards in the second half of 2007 and decrease further in coming years (see Chart II-10). In the baseline forecast, aluminium prices are 13% higher on average year-on-year in 2007, but will fall by as much as one-quarter next year and continue to decline in 2009.

Chart II-11
Terms of trade for goods and services[1]



1. Central Bank of Iceland forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart II-12
Real effective exchange rate of the króna
Q1/1986 - Q4/2006



Source: Central Bank of Iceland.

Favourable terms of trade in 2006

The terms of trade improved considerably in 2006, by 3.6%, as against a forecast deterioration of 1.3%. The improvement was driven by rising prices of marine products and aluminium, which exceeded import price growth. The total impact of the terms of trade was equivalent to 1.1% of the preceding year's GDP. The terms of trade have improved by 4½% since 2004, which was the weakest year on record (see Chart II-11). The terms of trade for goods and services are forecast to improve by 4.1% in 2007 but deteriorate by 8.4% next year on account of lower aluminium prices.

The depreciation of the króna in 2006 weakened the real effective exchange rate relative to consumer prices by 6.4%. In terms of relative unit labour costs the real effective exchange rate weakened by just under 1%; wage rises in Iceland in excess of those in main trading partner countries cancelled out most of the effect of the depreciation. Thus the competitive position of exporters improved considerably, especially relative to the real exchange rate in Q4/2005, but not enough to match the depreciation of the króna.

Massive boost to exports in 2007

Exports of aluminium products are forecast to increase by 75% this year and a further 50% in 2008. The forecast for marine export growth has also been revised upwards, to 4% growth from the 2% contraction forecast in November. Exports of other manufactured goods are expected to remain broadly unchanged year-on-year. The forecast for growth of exports of goods and services has been revised slightly downwards since November for 2007, but upwards for 2008. In particular, the revision is explained by a rather later upsurge in aluminium exports than was previously forecast.

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

	Current forecast[1]			*Change from previous forecast (percentage points)*[2]	
	2006	*2007*	*2008*	*2006*	*2007*
Exports of goods and services	9.6	16.7	4.5	-3.9	2.5
Marine production for export	4.0	0.0	0.0	6.0	0.0
Metals production for export	74.9	49.6	0.8	1.8	14.6
Export prices of marine products	5.4	3.0	2.0	2.4	1.0
Aluminium prices in USD[3]	13.3	-25.8	-25.0	13.7	-15.0
Foreign fuel prices[4]	-5.3	6.9	0.3	-5.5	4.9
Terms of trade for goods and services	4.1	-8.4	-6.6	5.3	-5.5
Global inflation[5]	1.9	1.9	1.9	-0.3	-
Global GDP growth[5]	2.4	2.4	2.5	-0.1	0.2
Foreign short-term interest rates[6]	4.1	4.0	4.0	1.0	0.8

1. Percentage change year-on-year, except for interest rates. 2. Change since *Monetary Bulletin* 2006/3. 3. Based on aluminium futures. 4. Based on fuel futures. 5. *Consensus Forecasts*. 6. Based on weighted average forward interest rates of Iceland's main trading partner countries.

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

III Financial conditions

The policy tightening cycle has had a substantial impact on the yield curve and market expectations since the last *Monetary Bulletin* was published in November 2006. Market agents' expectations about the policy rate path currently appear more compatible with the Central Bank's policy communication on the need to maintain a high policy rate until a lasting adjustment of inflation to the target has been achieved. Changed expectations have expedited monetary policy transmission across the nominal yield curve, but the muted demand resulting from glacier bond (euro-denominated króna bond) issuance and recent Central Bank measures to promote more normal price formation in the money markets have probably contributed as well.

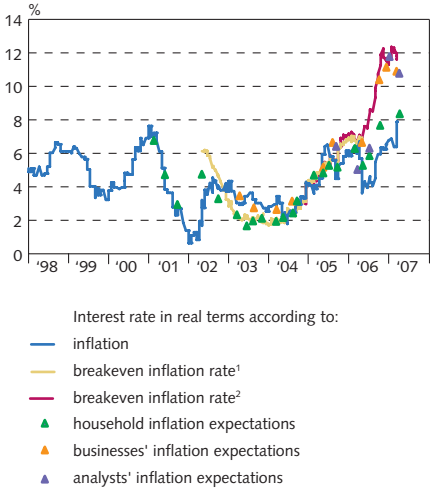
The rise in yields on indexed Housing Financing Fund (HFF) bonds following the government's announcement of cuts in indirect taxation has only partially unwound. The scale of the rise probably outweighs the impact of temporarily lower inflation on bond pricing. Credit system lending growth has slowed down in recent months at the same time as the share of foreign currency-denominated lending has increased. Icelandic banks' credit default swap spreads have narrowed since late 2006 and their foreign funding has become easier. One conceivable result could be lower interest rate premia on foreign currency-denominated lending in Iceland, spurring their growth even further.

Domestic financial markets and the exchange rate of the króna are sensitive to changes in international financial conditions. This was clearly seen at the end of February when a sudden fall in equity prices in China sparked a rapid shift in risk assessments by investors, subduing carry trade. In its wake, the króna depreciated and equity prices fell in Iceland for a while, as in many parts of the world.

Lower inflation will tighten the monetary stance

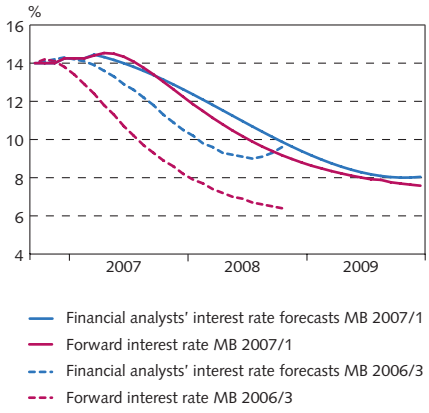
Since the publication of *Monetary Bulletin* in November, the policy rate has been raised by 0.25 percentage points to the current 14.25%. By most measures, the rate has increased in real terms. Relative to past inflation it is 1.5 percentage points higher. A recent survey, however, revealed that relative to corporate expectations twelve months ahead, the policy rate has fallen by roughly half a percentage point in real terms, but risen by roughly the same against household expectations. The real policy rate implied by the breakeven rate on Treasury bonds has been exceptionally difficult to interpret recently, because the market has been disrupted by a cut in consumption taxes. An increase in the breakeven rate, which could be ascribed to a jump in indexed bond yields just before the tax cuts took effect, has unwound slightly after the fact, but not to the extent that might have been expected. This invites the conclusion that markets now expect a high policy rate to be maintained for much longer than was previously thought. Relative to past inflation, the real policy rate is likely to increase in the coming months, due to a foreseeable temporary reduction in inflation caused by the indirect tax cuts and base effect.

Chart III-1
Central Bank policy interest rate in real terms
Weekly data January 7, 1998 - March 27, 2007



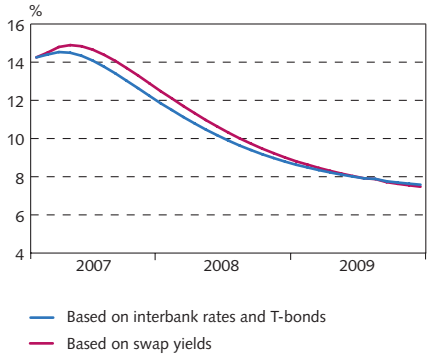
1. Spread between RIKB 13 0517 and RIKS 15 1001. 2. Spread between RIKB 13 0517 and HFF150914. Household, business and analysts' inflation expectations are based on inflation one year ahead.
Source: Central Bank of Iceland.

Chart III-2
Central Bank policy rate based on forward rates and analysts' projections
September 2006 - December 2009



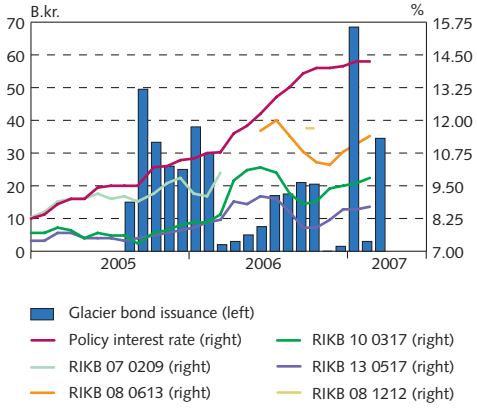
Source: Central Bank of Iceland.

Chart III-3
Central Bank policy rate based on forward rates
February 2007 - December 2009



Sources: Reuters, Central Bank of Iceland.

Chart III-4
Glacier bond issuance and interest rate developments[1]
August 2005 - March 2007



1. Data until March 27, 2007 inclusive.
Sources: Reuters, Central Bank of Iceland.

High policy rate expected to be maintained for longer than previously assumed

Changes in forward rates suggest that investors now expect a minor rise in the policy rate before a downward cycle begins. The path forecast in *Monetary Bulletin* in November has altered. Forward rates at that time implied that investors expected no further increases in the policy rate. However, it is unlikely that the change reflects expectations of a policy rate hike, and it can probably be largely explained by illiquidity in the money market in recent weeks. This has driven money market rates very high, sometimes even above the Central Bank's overnight rate.[1] The Central Bank responded with measures to facilitate more efficient interest rate formation in the money markets, by making certain types of glacier bonds eligible as collateral for the commercial banks' weekly facilities with the Central Bank.

Volatility due to lack of liquidity in the money markets has made it difficult to extract the expected policy rate path from implied forward rates. However, irrespective of uncertainties about the reliability of changes at the short end of the forward rate curve, it seems beyond doubt that investors now expect the policy rate to be kept high for longer than they did four months ago, as Chart III-2 shows. As discussed in previous issues of *Monetary Bulletin*, demand for nominal bonds alongside glacier bond issuance has distorted the investor expectations about the policy rate path that can be read from implied forward rates. Despite sizeable issuance of glacier bonds over the past months, their impact on nominal bond yields appears to have waned, which could offer one explanation for the rise in forward rates since *Monetary Bulletin* was published in November.

Forward rates inferred from yields in swaps linked to glacier bond issuance also indicate a shift in the expectations of market agents, who now foresee the policy rate being kept high for longer. The path actually implies that a further policy rate hike is expected, but illiquidity in the money market is the probable explanation. Several foreign analysts do forecast a hike, however. Forward interest rates in swaps suggest that investors expect interest rates to be kept high for somewhat longer than is implied by forward rates calculated from yields in domestic money and bond markets.

Stronger impact of monetary policy on nominal interest rates

Changed expectations about the future path of the policy rate have probably contributed to bringing yields on nominal Treasury notes closer into line with the Central Bank's policy communication in recent issues of *Monetary Bulletin*. Brisk glacier bond issuance in recent months also appears to have affected bond market demand less than before. Since issuance began in August 2005 it has muted monetary policy transmission across the nominal bond yield curve, by fuelling demand for nominal Treasury bonds to use in swaps made as a result of the glacier bond issues. However, Icelandic banks are beginning to

1. The reasons for the illiquidity experienced in the money market are discussed in more detail in the chapter on Financial markets and Central Bank measures on p.67.

look beyond the bond market for hedges against interest rate risk, thus easing the pressure on prices there.

International market developments have a considerable impact on yields in the domestic bond market

Iceland's financial markets have become much more closely integrated with foreign markets in recent years. Substantial carry trades have driven this development even further. Glacier bond issuance is a form of carry trade, and a large number of foreign investors enter Icelandic financial markets directly. One manifestation of closer integration between domestic and international capital markets is the growing correlation of the exchange rate of the króna with bond yields in European markets as well as with other high interest-rate currencies (see Charts III-6 and III-7). Domestic and foreign bond prices also display a relationship over time (see Chart III-9). It is likely that many investors involved in carry trades with Icelandic assets fund their dealing by borrowing in foreign markets, e.g. Europe and Japan. The same group of investors is also likely to conduct carry trades in other high-yielding currencies. Changes in financial conditions in the markets where these investors fund their trades, or in other high-yielding countries, could therefore have a substantial impact on the exchange rate of the króna and on domestic financial market developments. Likewise, a shift in investors' risk assessments for carry trades could significantly affect the scope of trading, with a knock-on effect to Iceland's domestic markets and exchange rate.

When the króna depreciated in February 2006 after Fitch Ratings revised Iceland's sovereign outlook downwards to negative, it caused temporary contagion to other high-yielding currencies and carry trades in many parts of the world. In the spring, investors suddenly changed their assessment of US inflation developments, expecting a faster rise in the federal funds rate than before. Carry trade shrank as a result and high-yielding currencies weakened, including the króna, but carry trades firmed up again in the summer. Another shock was felt in February this year after equity prices in China took a dive. All these events underline how exposed to international developments Icelandic markets have become.

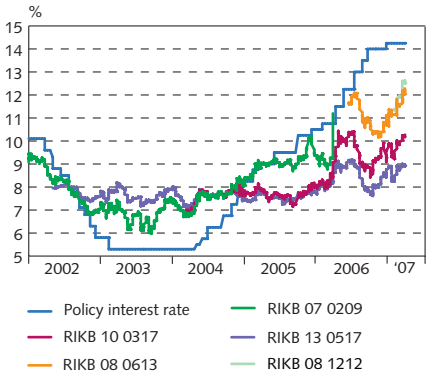
Indexed bond yields still high

Following the government's announcement in October of its plans to cut indirect taxes, yields on indexed HFF bonds rose and have remained high ever since. This applies in particular to the two shortest maturities, while expectations of a fall in the short-term inflation rate have less effect on longer maturities, in which case the long-term interest rate outlook carries more weight. However, the rise in the two shortest maturities was not solely driven by expectations of lower headline inflation. The dip in the CPI resulting from the cut in indirect taxes does not seem to explain in full lower bond prices. The turbulence that greeted the publication of the March 2007 inflation figures, however, indicates that the impact of the tax measures was overestimated. The higher yields may therefore unwind further once the impact of lower inflation has been priced into the bonds. The jump

Chart III-5

Long-term nominal Treasury bond yields and the Central Bank policy rate

Daily data January 3, 2002 - March 27, 2007

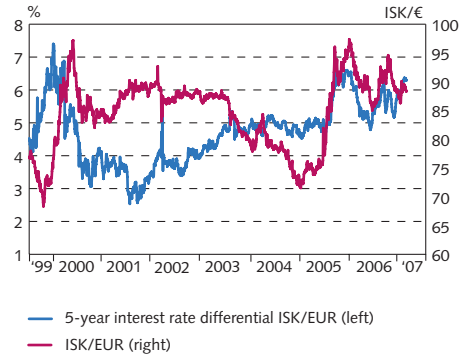


Source: Central Bank of Iceland.

Chart III-6

5-year interest rate differential and exchange rate against the euro

Daily data July 1, 1999 - March 27, 2007[1]

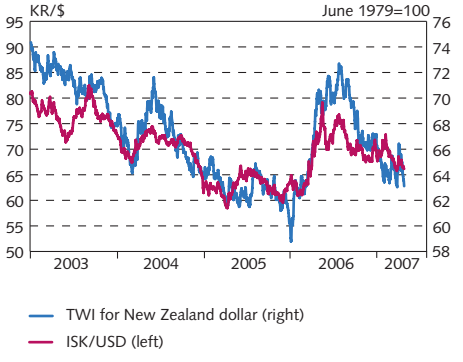


1. Weekly data until 2004.
Sources: Reuters, Central Bank of Iceland.

Chart III-7

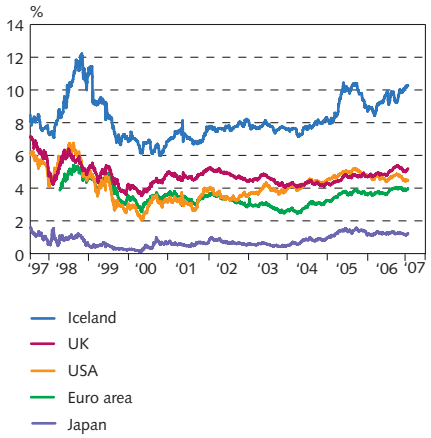
Exchange rate of the króna against USD and TWI for New Zealand dollar

Daily data January 1, 2003 - March 27, 2007



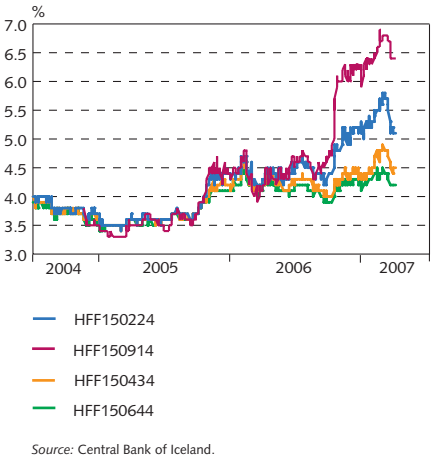
Sources: Reserve Bank of New Zealand, Central Bank of Iceland.

Chart III-8
Yield on 5-year foreign Treasury bonds
Daily data July 9, 1997- March 27, 2007[1]



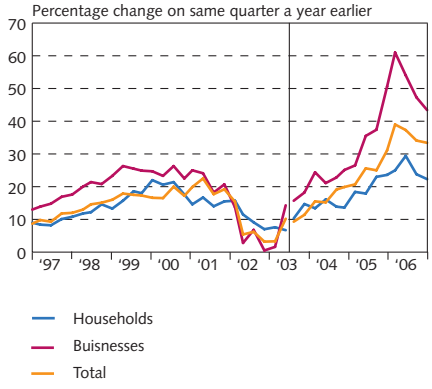
1. Weekly data until 2004.
Sources: Reuters, Central Bank of Iceland.

Chart III-9
HFF bond yields
Daily data July 8, 2004 - March 27, 2007



Source: Central Bank of Iceland.

Chart III-10
Quarterly credit system lending growth[1]
Q1/1997 - Q4/2006
Percentage change on same quarter a year earlier



1 Due to a reclassification of lending, after Q3/2003 data by sector are not comparable with earlier data.
Source: Central Bank of Iceland.

in yields may be explained in part by other factors as well. As can be inferred from forward rates and financial analysts' forecasts, investors expect a high policy rate to be maintained for longer than before, which channels their interest away from short bonds to longer ones. Inflation expectations have also decreased in recent months, serving to dull investor appetite for shorter indexed bonds even further.

The rise in HFF bond yields of 0.3-1.5 percentage points from October 9, 2006 to March 27, 2007 has led to only an 0.05 percentage point rise in the HFF's lending rate. This is because the HFF has accepted only bids for two longer maturities since yields began to climb. It is an open question whether the HFF can hold out for much longer or will need to accept bids for the shorter maturities. Consequently, HFF lending rates will probably increase further in the coming months, unless yields on HFF bonds fall by even more.

Slowdown in indexed lending growth, but the share of foreign currency-denominated loans in household debt has increased

Growth in lending by the credit system slowed down in Q4/2006, after reaching a historical peak in Q1 that year. On the other hand, foreign currency-denominated lending has increased quite sharply in recent months, including to households, which hitherto have not taken foreign currency-denominated loans on any great scale. Foreign currency-denominated loans now account for more than 5% of household borrowing, compared with just over 2% a year ago. There may be a number of explanations for the increase. First, the króna depreciated in Q4/2006, which may have prompted households and businesses to view foreign borrowing as a more favourable option. Second, financial companies may have been reluctant to offer indexed loans in anticipation of the fall in the CPI in March 2007. Third, the public debate about exorbitant interest rates and interest rate differentials may have served to channel household credit demand towards foreign currency-denominated borrowing.

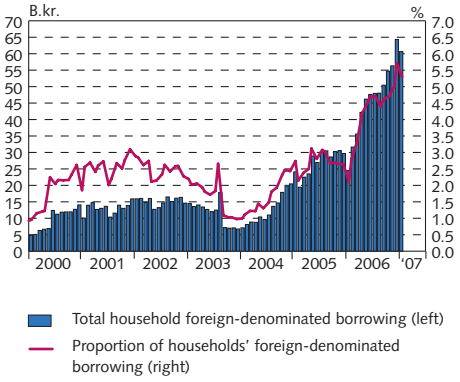
In spite of the growing share of foreign currency-denominated borrowing in their debt, by far the strongest determinants of households' financial conditions are domestic interest rate developments and credit supply. Interest rates on indexed lending have risen somewhat in recent months. As pointed out above, HFF mortgage loan rates were recently raised. Excluding prepayment premia, HFF rates are currently only 0.1 percentage point lower than they were before the Fund changed its auction arrangements in 2004. From this angle, households' conditions for refinancing and new borrowing have deteriorated quite considerably. The HFF is more likely to raise its mortgage interest rates in the near future than lower them. On the other hand, there has also been some increase in credit supply. The HFF recently raised its loan-to-value ratio from 80% to 90% and its mortgage ceiling from 17 m.kr. to 18 m.kr. Some banks have also raised their loan-to-value ratios and eased their credit terms.

One factor determining the impact of recent fluctuations in the financial conditions of businesses is the fact that almost 60% of their debt with the credit system is denominated in foreign currencies. The long-term effect of exchange rate movements on businesses may be

more benign than on households to the extent that they earn revenues in foreign currencies. Moreover, their access to hedging instruments against exchange rate movements is better and less expensive. Nevertheless, they may be exposed to substantial exchange rate risk. A number of large corporations which earn the bulk of their revenues in krónur but largely fund their operations in foreign currencies incurred sizeable accounting losses in 2006. That said, the financial position of most businesses still appears to be fairly strong. So far, increased borrowing over the past two years has not led to a rise in delinquency. Deposit money banks have not experienced a lower delinquency rate on their lending for the past six years. Nonetheless, the surge in credit could eventually be reflected in greater delinquency when domestic demand contracts and unemployment picks up.

Chart III-11

Households' foreign currency-denominated borrowing and their proportion of total borrowing January 2000 - January 2007[1]



1. Foreign currency-denominated borrowing by households as a proportion of lending by DMBs, the HFF and pension funds at end of month. Foreign currency-denominated loans have been adjusted for estimated exchange rate movements.
Source: Central Bank of Iceland.

Financial conditions of households and business have deteriorated somewhat, but credit supply has increased

The overall conclusion is that the financial conditions of households and businesses have deteriorated slightly since the last *Monetary Bulletin* was published. Lending rates in domestic currency have generally risen, on both nominal short-term and indexed long-term loans. Interest rates on foreign currency-denominated loans have also edged upwards. A compounding factor is that inflation over the past year has increased the principal and thereby the debt service burden on indexed borrowing. Debt service on foreign loans has also grown over the past year due to the appreciation of the króna, although the currency has been somewhat stronger since November than it was in the middle of the year. While higher lending rates imply less favourable conditions for new borrowing, this has been offset by higher loan-to-value ratios and mortgage ceilings.

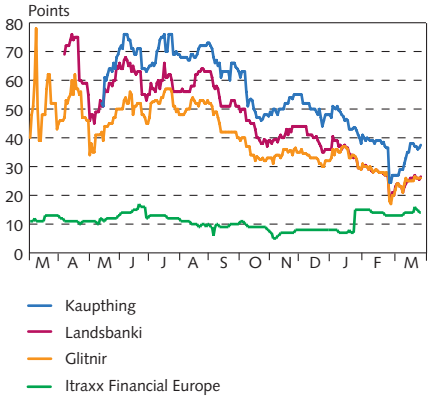
International market developments could have a marked impact on the near-term development of domestic financial conditions

Although the Central Bank's policy rate is a major factor behind the financial conditions of households and business, developments in international markets affect the degree to which policy rate changes are transmitted across the yield curve and to the exchange rate channel, as described above. Due to the increased weight of foreign currency-denominated borrowing, the direct and indirect impacts of international financial conditions are increasingly felt. Domestic economic developments may also influence the terms offered to Icelandic financial institutions in international capital markets, as was clearly seen in 2006, when these tightened by considerably more than those of their foreign rivals. As a consequence, the banks encountered problems in raising funds in European capital markets. The Icelandic banks' credit terms have probably improved somewhat since the end of 2006, at least if their smaller CDS spreads in recent months are a reliable indicator. Following Moody's upgrade of its ratings in February for the Icelandic banks, along with many others across Europe, to the highest category, their CDS spreads decreased even further. However, to a large extent this was subsequently reversed after Moody's announced that it will publish new ratings at the beginning of April,

Chart III-12

CDSs of Icelandic banks and Itraxx Financial Index

Daily data March 7, 2006 - March 27, 2007



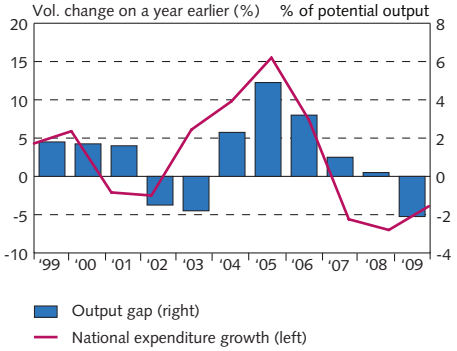
Source: Reuters.

following harsh criticism of its latest methodologies. Be that as it may, the banks' access to credit is considerably easier than for much of 2006. This might conceivably be passed on to borrowers through lower rates on foreign currency-denominated lending to households and businesses and further encourage foreign currency-denominated borrowing.

IV Domestic demand and production

In recent years the Icelandic economy has been characterised by enormous imbalances. As domestic demand has surged, output has expanded faster than production capacity. The resulting output gap is reflected in inflationary pressures in the goods market and wage pressures in the labour market. Domestic demand growth has repeatedly exceeded forecasts, preventing macroeconomic imbalances from unwinding. Under such conditions, price and wage movements are likely to drift away from the inflation target. The forecast presented below reveals that a substantial contraction of domestic demand is a precondition for unwinding the imbalances. In order to induce the contraction needed to close the output gap and bring inflation back to target, the policy interest rate will need to remain unchanged until Q4/2007.

Chart IV-1
Growth of national expenditure and output gap 1999-2009[1]



1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Changed presentation of the baseline forecast

The Central Bank's baseline forecast has often presented a picture of unfolding economic developments that is at odds with the inflation target. As described in Section I, such an arrangement poses serious challenges. The baseline forecast presented here depicts how the Central Bank's staff considers that its monetary policy can contribute to the macroeconomic adjustment required to attain the inflation target within an acceptable horizon. The choice of underlying policy rate path in the forecast is guided by the Central Bank's objectives, instead of being based on market agents' expectations of policy rate developments or on an unchanged policy rate across the forecast horizon (for the analysts' forecasts, see Box IV-1 on p. 30). Such an arrangement enables the Central Bank, so to speak, to "assume ownership" of its own baseline forecast. Forecasts showing a sharp divergence between economic developments and the target should therefore be a thing of the past.[1]

Output gap closed and underlying inflation on target at the end of 2008 after rapid shrinking of national expenditure

In the baseline forecast, output will adjust to its potential level in 2007 and 2008 (for further details of the forecast, see Table 1 of Appendix 3 on p. 67). By the end of 2008 the output gap has closed and underlying inflation (excluding tax effects) is on target (see further Section IX). The main driver of the adjustment is a sharp contraction in investment, while private consumption remains broadly unchanged in 2007 and decreases next year. Bringing about a sufficiently large adjustment to attain the inflation target hinges on the policy rate being kept high for some time after inflation turns downwards. The policy rate is expected to remain unchanged until Q4/2007, then gradually come down to just over 10% on average in Q4/2008. It

1. The new presentation of the baseline forecast complicates comparison with earlier baseline forecasts, which assumed a different policy rate path that was not always compatible with the Bank's own assessment. For a more detailed discussion of the importance of the underlying policy rate path in central bank forecasts, see the article by Thorvardur Tjörvi Ólafsson on p. 71.

should be firmly underlined that the policy rate path is estimated on the basis of currently available data on how economic developments will unfold. These data and their interpretation are fraught with uncertainties. Thus the actual policy rate path could turn out differently for various reasons.

GDP growth will be low in 2007 and 2008, according to the baseline forecast, at least in comparison with 2004 and 2005. A positive contribution by foreign trade, mainly driven by increased exports of aluminium and a contraction in imports of capital goods, will keep GDP growth positive in 2007 and 2008 despite sharply shrinking domestic demand. GDP is forecast to contract by 1% in 2009. This would be the first contraction since 2002 and the most pronounced since 1992. A swifter return to balance than assumed here would allow the policy rate to be lowered sooner, which could support an earlier recovery. Hence, a slower adjustment could ultimately require a deeper contraction.

Exchange rate developments still the main uncertainty

In the baseline forecast, macroeconomic balance is achieved through internal adjustment rather than an exchange rate adjustment. Domestic demand shrinks until output and production capacity balance. A contraction in national expenditure entails a substantial reduction in imports. Over the same period, expanded aluminium production causes export growth to soar. Thus the trade deficit soon closes. Nonetheless, the current account deficit remains large until the end of the forecast horizon (see Section VII), due to hefty net interest payments abroad. A persistent and ultimately unsustainable current account deficit poses a major risk that exchange rate developments will be less favourable than in the baseline forecast. In that case, the channel of adjustment would be different. The króna exchange rate is therefore probably the greatest risk factor in the baseline forecast (see further Box IX-2 on p. 58).

Later and slower domestic demand adjustment than in the November 2006 baseline forecast

According to Statistics Iceland's preliminary national accounts published in mid-March, national expenditure grew by 7.4% in 2006 – over one percentage point more than forecast in *Monetary Bulletin* in November 2006. The discrepancy lies in an upward revision of investment and public consumption growth. The adjustment of domestic demand is therefore slower than previously forecast.

Statistics Iceland's preliminary data confirmed the concerns voiced by the Central Bank in November that investment growth in 2006 might exceed preliminary quarterly estimates. In the Central Bank's view, a much greater than forecast current account deficit indicated that investment growth could be underestimated in the preliminary data.

The forecast contraction in national expenditure in 2007 has been revised downwards to 5½%, mainly as a result of the carry-over impact of stronger than expected investment in late 2006. Given the policy rate path, which is determined with a view to the inflation

target, domestic demand will still contract sufficiently later along the horizon to close the output gap.

Private consumption unchanged in 2007, then contracts sharply

A surge in private consumption has been one of the two main drivers of robust GDP growth in recent years. It has been driven by soaring asset prices (especially house prices, cf. Chart IV-2) which have boosted net household assets, facilitated credit supply which has contributed to rapid debt accumulation, strong growth in disposable income and expectations that earnings and asset prices will continue to rise. Private consumption growth began to slow after mid-2005 and the twelve-month figure had fallen to a little over 1% in Q4/2006. According to Statistics Iceland estimates, the slowdown in the second half of 2006 was sharper than the Central Bank had forecast and could be inferred from some indicators.

In the baseline forecast, private consumption growth will continue to slow down and contraction will start in mid-2007. It will remain flat on average this year, before shrinking more rapidly towards the end of 2009. If the forecast holds, private consumption will follow a similar pattern to the first half of the 1990s (see Chart IV-3). However, the contraction phase will last longer and be more profound than in 2001-2. Higher real earnings and asset prices are the main drivers this year, with household confidence at a peak according to recent surveys. Later on, household debt service will increase due to heavy debt accumulation in recent years and higher real interest rates. Disposable income and private consumption will therefore contract over the next two years. Falling house prices and higher unemployment will further cram down household consumption along the forecast horizon.

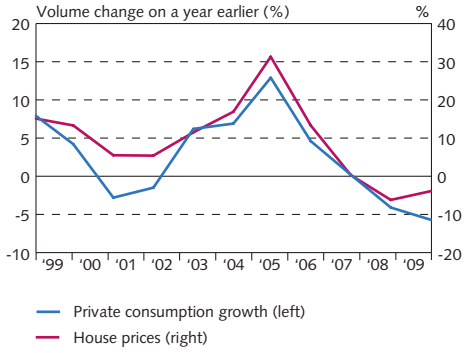
Is there no limit to household confidence?

The Gallup index of consumer confidence rose by 21 points in February – by 17% month-on-month – to its highest value ever. Icelandic consumers currently appear to have enormous confidence in the economy and business sector. Index components for household assessments of the economy and employment situation are also at record levels. Probable explanations are lower food prices, higher wages, the appreciation of the króna and ongoing rises in asset prices, which appear to carry more weight in consumers' minds than high interest rates, high inflation and persistent macroeconomic imbalances. The situation is prone to swift change, however. A year ago the confidence index hit a peak just before the króna slid and growing doubts came to the fore about Iceland's economy and financial sector.

Initial estimates for investment in 2006 revised upwards, as the Central Bank had expected

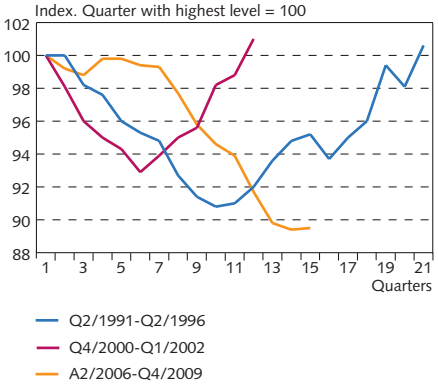
According to preliminary estimates, gross fixed capital formation increased by 13% in 2006, compared with the Central Bank's November forecast of 9%. Statistics Iceland also revised upwards its estimates of business and residential investment over the preceding three quarters, but public sector investment downwards. This confirms the Central Bank's stated view that investment growth in 2006 was

Chart IV-2
Private consumption growth and house prices 1999-2009[1]



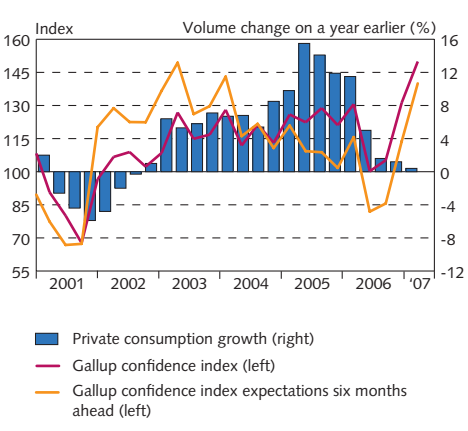
1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-3
Private consumption trends after peaks in 1991, 2000 and 2006[1]



1. Seasonally adjusted private consumption. Data before 1997 from Central Bank macroeconomic model.
Sources: Statistics Iceland, Central Bank of Iceland.

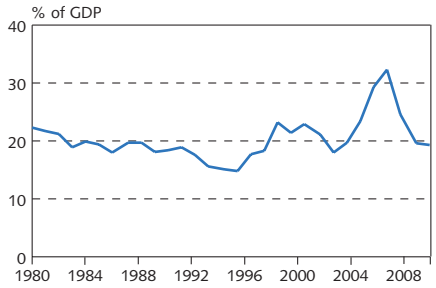
Chart IV-4
Private consumption and consumer confidence Q1/2001 - Q1/2007[1]



1. Confidence index at end of each quarter. Value of index for Q1/2007 is for February. Value for private consumption growth in the quarter is Central Bank forecast.
Sources: Capacent Gallup, Statistics Iceland, Central Bank of Icleand.

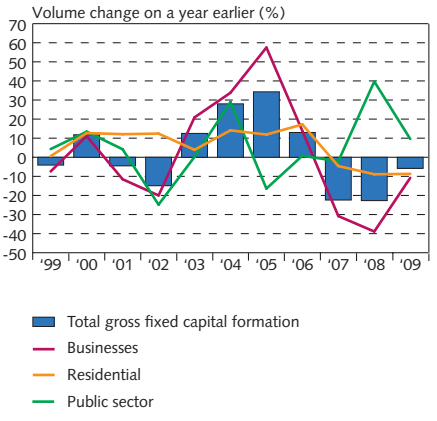
likely to be underestimated in preliminary data, partly in light of the trade deficit that exceeded forecasts.

Chart IV-5
Gross fixed capital formation as % of GDP 1980-2009[1]



1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-6
Gross fixed capital formation growth and its main segments 1999-2009[1]



1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Investment shrinks back to one-fifth of GDP over the forecast period

Over the past three years, investment has expanded at its fastest pace in the post-war era. Investments in the aluminium and power sectors have been the main drivers, but broad-based business investment and residential investment have also soared. Gross fixed capital formation reached one-third of GDP in 2006. By comparison, investment was on average equivalent to roughly one-fifth of GDP from 1980 to 2003. Following a sharp contraction, the ratio will have returned to roughly one-fifth in the second half of the forecast horizon.

Nonetheless, the November forecast for the contraction in investment in 2007 has been revised downwards to 22% from 28%. The drop this year is accounted for almost entirely by the aluminium and power sectors, where investment ran at 117 b.kr. in 2006 but will be 52 b.kr. in 2007 and 13 b.kr. in 2008.[2] Other business investment is expected to remain unchanged year-on-year.

Gallup's survey of business sentiment in February indicates that investment will remain unchanged year-on-year, excluding investment linked to the aluminium and power sector projects. Substantial investment will be made in aircraft, fishing vessels, shopping malls, supermarkets and office premises, and in a conference centre and concert hall by the harbourside in Reykjavík. Investment in these projects could reach 40 b.kr. this year and a similar amount in 2008.

Investment is forecast to continue shrinking until Q4/2009, when it picks up modestly. Combined with the contraction in private consumption, the lower level of investment, especially in the business and residential sectors, will bear the brunt of the economy's adjustment to potential output over the coming years.

Residential investment grew by 17% in 2006

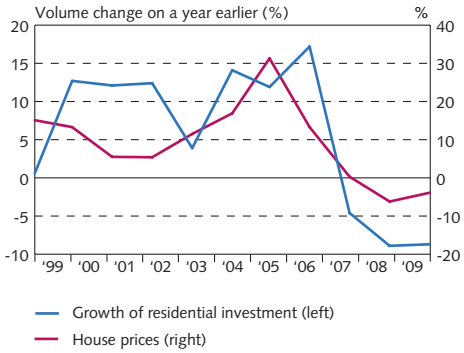
Residential investment growth measured 17% in 2006, according to preliminary estimates – the highest figure since 1973. In the March issue of *Monetary Bulletin* (2006/1), the Central Bank forecast 25% growth over the year, partly based on expected high profits for contractors after housing prices had risen far in excess of construction costs. Indicators such as imports of construction materials, etc., reinforced this view. The forecast was revised downwards to 15% in *Monetary Bulletin* 2006/2 in July, after Statistics Iceland released preliminary data for Q1/2006, then to just below 14% in *Monetary Bulletin* 2006/3 in November, when figures for the first half of 2006 were available. In its preliminary estimates for the whole year, Statistics Iceland now puts the figure at 17%.

In the baseline forecast, residential investment declines over the entire forecast horizon. The contraction is forecast at 4½% in

2. The baseline forecast does not assume further investment in the aluminium and power sectors after the current projects in East Iceland end. Box IX-2 on p. 58 describes alternative scenarios estimating the impact of further investments for construction of a smelter in Helguvík and the expansion of the Alcan smelter in Straumsvík.

2007 and 9% each year in 2008 and 2009. Nominal house prices are expected to edge upwards this year, but decline in 2008 and 2009. Thus housing prices decrease rather later than was forecast in November, since there is still considerable evidence of brisk activity in the real estate market. Credit supply has increased again recently. The Housing Financing Fund (HFF) has raised its maximum loan-to-value ratio from 80% to 90%. Interest rates on its new mortgage lending have risen by only 0.05 percentage point despite a sharp increase in HFF bond yields. Commercial banks have advertised mortgages denominated in foreign currencies and one has offered a specific target client group 100% mortgages with limited repayments for the first years.

Chart IV-7
Growth of residential investment and house prices 1999-2009[1]



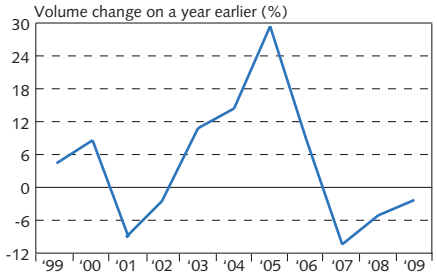
1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Robust import growth in 2006 but signs of a slowdown as the year progressed

Preliminary figures from Statistics Iceland show import growth of just below 9% in 2006. This is almost double the growth rate forecast in November. Increased imports tend to reflect higher domestic demand. Annualised growth of imports reached 35% at the peak in Q3/2005. Growth of national expenditure peaked at the same time, at 22%. The growth rate of both imports and domestic demand subsequently slowed down, especially after the depreciation of the króna in Q1/2006 and the peak in investment in the aluminium and power sectors.

Imports are forecast to contract by 10% in 2007, which is broadly unchanged from the November forecast. Developments in 2008 and 2009 reflect declining domestic demand. The decrease in imports is forecast to continue along the forecast horizon.

Chart IV-8
Import growth 1999-2009[1]



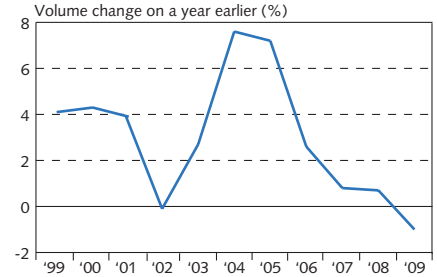
1. Central Bank forecast for 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

GDP growth in 2006 was lower than forecast and will be subdued in 2007-8 and negative in 2009

GDP grew by 2.6% in 2006, according to preliminary estimates by Statistics Iceland, compared with the Central Bank's November forecast of 4%. National expenditure growth exceeded the forecast, however. Sluggish growth is therefore fully explained by a more negative contribution from foreign trade than was forecast, outweighing more rapid expansion of investment. Exports shrank by almost twice as much as forecast in November, and imports rose by almost twice as much as well.

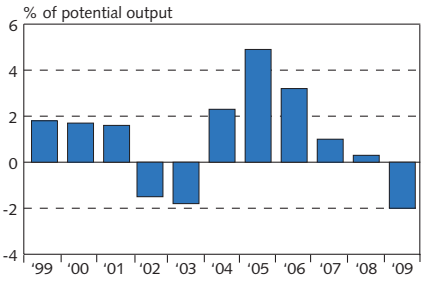
Subdued growth is forecast for 2007 and 2008. Domestic demand will contract sharply, but GDP growth will be kept positive by the contribution from foreign trade. A massive increase in aluminium exports is the main factor at work, but lower aluminium prices will diminish the impact on export revenues. A 1% contraction is forecast in 2009. It should be underlined that forecast uncertainty increases significantly later along the horizon.

Chart IV-9
Economic growth 1999-2009[1]



1. Central Bank forecast for 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-10
Output gap 1999-2009[1]



1. Central Bank forecast 2007-2009
Source: Central Bank of Iceland.

The output gap continues to narrow and will turn negative at the beginning of 2009

Estimation of the output gap is fraught with uncertainties, but still provides a crucial input for monetary policy-making. The output gap was positive by an estimated 3.2% in 2006. Lower estimated potential output and slower GDP growth balance each other out. Hence, the estimated output gap is broadly unchanged from the November forecast. The reason for the lower potential output estimate since *Monetary Bulletin* in November 2006 is that the estimated capital stock has been revised downwards. The output gap will continue to narrow over the medium term. It will be positive by 1% in 2007 and negligible in 2008. At the beginning of 2009 it turns negative, averaging -2% over the year as a whole. The output slack will start to decline from the middle of 2010.

Box IV-1

Financial market analysts' assessments of the economic outlook

For each issue of *Monetary Bulletin*, the Central Bank surveys financial market analysts' assessments of the economic outlook. The latest survey was conducted in mid-March and participants were the research departments of Glitnir, Kaupthing Bank, Landsbanki and Askar Capital. The main changes from the October survey (published in November) are that analysts have revised their forecasts for inflation, output growth and real estate prices in 2007 slightly upwards. For 2008, they forecast less output growth but ongoing rises in real estate prices.

Outlook for headline inflation close to target

Analysts forecast year-on-year inflation in 2007 of 3½%, which is slightly higher than in the previous survey in October. Their forecast is for headline inflation and includes the effects on the CPI of a cut in indirect taxes and excise taxes. Their average inflation forecast is close to the Central Bank's baseline forecast, which is based on what the Bank's staff view as an optimum policy rate path for attaining the inflation target. Analysts expect the inflation target to be attained somewhat later than is projected in the Central Bank's baseline forecast. They also forecast 3½% year-on-year inflation in 2008, while in the Bank's baseline forecast, which assumes a rather higher policy rate, it is within target by then at 2.3%. On average, the analysts' forecast for year-on-year inflation in 2009 is very similar to the Central Bank's. In both cases, inflation is close to target.

Upbeat growth outlook over the forecast horizon

Financial market analysts expect that the economic adjustment will entail broadly the same output growth rate as in 2006, forecasting 2½% on average in 2007 and just over 3% in 2008. They are in broad consensus about the growth outlook, although one respondent, who estimates a high probability that investment in the aluminium and power sectors will continue, forecasts more than 4% growth in 2008. In the Central Bank's baseline forecast, output growth is significantly lower, at less than 1% in 2007 and 2008. On a longer horizon, analysts forecast output growth of just over 3% on average in 2009.

Exchange rate forecast virtually unchanged since October

The króna has been relatively stable in recent months. Analysts forecast an exchange rate index of 126 twelve months ahead and a marginal appreciation of the króna a year later. This forecast is virtually unchanged since the last survey in October. Opinions diverge

widely, however, with a range of 20 points between the highest and lowest values one year ahead. Two years ahead, they narrow the index value to 120-127.

Analysts forecast rapid lowering of the policy rate

The Central Bank's policy rate is currently 14.25% after a hike of 0.25 percentage points in December 2006. The analysts' average forecast is virtually unchanged from the October survey. They forecast a policy rate of just over 11% one year ahead, just over 9% two years ahead and 8% after three years. The majority predict that the policy rate will be left unchanged on the scheduled interest rate decision date, March 29. The main change since *Monetary Bulletin* in November is that the majority of respondents now expect the Central Bank to begin lowering the policy rate in Q3/2007. In the October survey, they expected the downward cycle to commence earlier. One analyst, however, expects a hike of 0.25 percentage points and a high policy rate maintained along the forecast horizon. A fairly wide discrepancy is seen in their forecasts for the policy rate trough over the next few years, ranging from 5.5% to 10% at the end of the decade.

Outlook for higher real estate prices over the forecast period

Equity prices have risen sharply since the beginning of the year and sentiment on the equity market appears to be upbeat. On March 21, Iceland Stock Exchange's ICEX-15 index stood at almost 7,500, having risen by 15% since mid-October. Most analysts expect equity prices to continue to climb and have revised their forecasts upwards. They forecast an ICEX-15 index value of above 8,000 on average one year ahead.

Real estate prices are now expected to rise over the forecast period, which is a marked change from the October forecast, reflecting the apparent pickup in house price inflation since the beginning of the year. On average, analysts forecast that real estate prices will increase by just over 3% over the next twelve months. None forecast that prices will fall, but one expected them to remain flat over the next twelve months, which implies a reduction in real terms.

Overview of forecasts by financial market analysts[1]

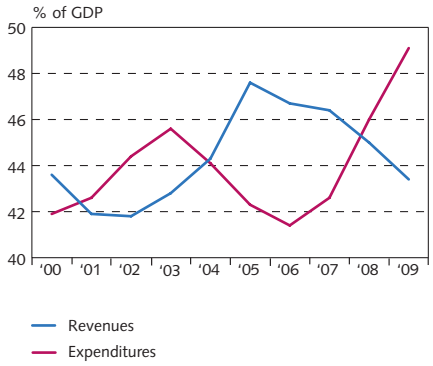
	2007			*2008*			*2009*		
	Average	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*
Inflation (year-on-year)	3.5	2.8	4.2	3.5	2.1	4.2	2.6	1.5	3.3
GDP growth	2.4	1.5	3.4	3.2	2.3	4.1	3.2	2.6	3.5
	One year ahead			*Two years ahead*					
Inflation	3.4	2.1	4.6	3.1	2.5	3.4			
Effective exchange rate index of foreign currencies vis-à-vis the króna (Dec. 31, 1991=100)	126	115	135	124	120	127			
Central Bank policy interest rate	11.3	9.8	14.0	9.2	6.0	13.0			
Nominal long-term interest rate[2]	8.1	7.4	8.5	7.6	7.0	8.0			
Real long-term interest rate[3]	3.8	3.5	4.0	3.6	3.4	3.8			
ICEX-15 share price index (12-month change)	8,063	7,000	8,820	8,930	7,000	10,143			
Housing prices (12-month change)	3.1	0.0	5.0	3.2	0.0	7.6			

1. The table shows percentage changes between periods, except for interest rates (percentages) and the foreign exchange rate index and ICEX-15 index (index points). Participants in the survey were the research departments of Glitnir, Kaupthing Bank and Landsbanki, and Askar Capital. 2. Based on yield in market makers' bids on non-indexed T-notes (RIKB 13 0517). 3. Based on yield in market makers' bids on indexed Housing Financing Fund bonds (HFF150644).

Source: Central Bank of Iceland.

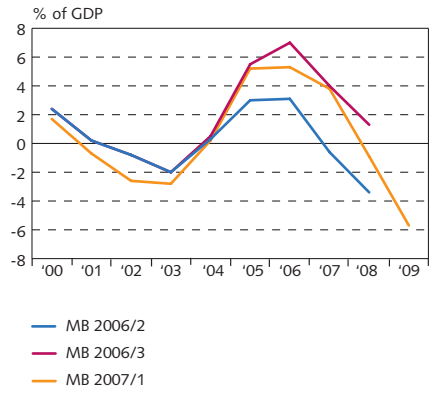
V Public sector finances

Chart V-1
Public sector revenues and expenditures 2000-2009[1]



1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-2
Public sector fiscal balance forecast 2006-2009



Source: Central Bank of Iceland.

The public sector surplus in 2006 was broadly unchanged from 2005, equivalent to 5.3% of GDP. This year the outlook is also for a strong surplus, around 4% of GDP. However, the fiscal balance is likely to turn to a deficit in 2008 and deteriorate further in 2009. Forecasting uncertainty increases, however, as the horizon progresses.

Reduced revenues as a proportion of GDP ...

As a proportion of GDP, public sector revenues are set to shrink marginally in 2007. Under the Central Bank's baseline forecast, public sector revenues are expected to decline from 46½% of GDP in 2006 to 43½% in 2009 on account of tax cuts, a contraction in private consumption and shrinking revenues from personal financial income tax and corporate taxation in 2008-2009.

... but higher expenditures ...

In the baseline forecast, public sector expenditures increase as a proportion of GDP from 41½% in 2006 to 49% at the end of the horizon. The reason for the increase is, in part, that public consumption is expected to grow at broadly the same rate as in recent years, but GDP more slowly. Heavy Treasury investment is also forecast in 2008 and 2009, together with a rise in Treasury transfers and social security payments as a proportion of GDP, from 6½% in 2006 to 8½% in 2009. Increased transfers are largely the result of higher pension payments by the social security system and unemployment benefit, as unemployment grows.

... and the surplus turns negative within the forecast horizon

Falling revenues and rising expenditures will flip the public sector surplus of just over 5% of GDP in 2006 to a deficit of almost 6% in 2009, reflecting the sizeable turnaround in the economic climate over the period.

New methodology shows local government surplus, not deficit

Statistics Iceland's revised methodology for compiling the public consumption section of its quarterly national accounts, as well as new estimates for 2006 released in mid-March, led to considerable changes in previously published public sector data since 1998. The measured public sector balance over 1998-2005 is now weaker than

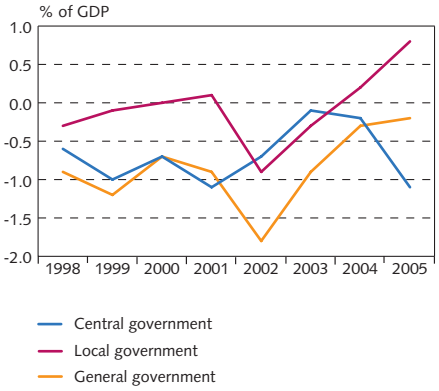
Table V-1 Public sector 2005-2009[1]

% of GDP	*2005*	*2006*	*2007*	*2008*	*2009*
Revenues	47.6	46.7	46.4	45.0	43.4
Expenditures	42.3	41.4	42.6	46.0	49.1
Balance	5.2	5.3	3.8	-0.9	-5.7
Structural balance	3.4	3.4	3.1	-0.5	-4.8
Net debt[2]	2.8	0.7	-6.3	-4.7	6.5
Total debt	25.0	33.5	27.3	28.3	34.1

1. National accounts presentation. 2. Including Treasury liquidity but excluding pension fund commitments.
Sources: Statistics Iceland, Central Bank forecast for 2007-2009.

in previous estimates, by 2% of GDP at the most in 2002. One of the most noteworthy changes is the revision of the local government balance in 2005, to a surplus of 5½ b.kr. instead of the 4 b.kr. deficit shown by earlier data. This revision is equivalent to 6½% of local government revenues and 0.8% of GDP. Also, treasury revenues are now estimated at 362 b.kr. in 2005 instead of 373 b.kr. The expenditure side changed rather less, and the estimated Treasury surplus in 2005 has now been revised downwards by 11 b.kr. to 46 b.kr.

Chart V-3
Changes in historical estimates of fiscal balance 1998-2005
Revised minus older figures



Source: Statistics Iceland.

Lower than forecast Treasury tax revenues and higher expenditures in 2006 ...

The Treasury surplus in 2006, including the social security system, amounted to just over 60 b.kr., or 5% of GDP. A surplus of 78 b.kr. was forecast in *Monetary Bulletin* in November 2006. Almost half of the decrease is explained by a revision of the balance in 2005 and the remainder by less revenue from corporate taxation and indirect taxation. Treasury expenditures were also projected to rise by just under 1% in the November forecast, but preliminary estimates now put the increase at just over 1%.

... and a weaker outlook this year

The outlook for the Treasury balance in 2007 is considerably weaker than was forecast in November. The estimated surplus has been revised downwards by one percentage point to just over 3% of GDP. Expenditures are now expected to increase by 5% in real terms, instead of 4%. Transfer outlays weigh heaviest in this increase, especially pension benefits and support for private sector pension funds. However, the forecast decrease in Treasury revenues has also been revised to 3% from 6%, with a boost from corporate taxation and personal financial income tax.

Treasury surplus reverses into deficit in 2008 ...

In 2008, the Treasury's surplus is expected to reverse into a deficit equivalent to almost 1% of GDP. Revenues will fall by an estimated 7-8% in real terms as declining private consumption and imports reduce the growth in revenues from corporate taxation and taxes on consumption. Treasury expenditures will increase by almost 5% in real terms, largely due to a massive hike in investments.

Table V-2 Treasury 2005-2009[1]

% of GDP	*2005*	*2006*	*2007*	*2008*	*2009*
Revenues	35.6	34.7	34.3	32.7	31.0
Expenditures	30.8	29.9	31.0	33.4	35.5
Balance	4.8	4.8	3.3	-0.7	-4.6
Structural balance	3.5	3.5	2.8	-0.4	-3.9
Credit balance	8.4	-2.2	3.0	0.2	-3.4
Net debt[2]	0.8	0.3	-3.9	-2.7	6.9
Total debt	18.2	26.3	21.6	22.3	27.0

1. National accounts presentation. 2. Including Treasury liquidity but excluding pension fund commitments.
Sources: Statistics Iceland, Central Bank forecast 2007-2009.

... which widens sharply in 2009

Treasury revenues in 2009 are forecast to fall by 9% in real terms (almost 30 b.kr.), mostly for the same reasons as in 2008, but with interest revenues falling as domestic interest rates head downwards. Treasury expenditures increase by 2½% due to higher public consumption and transfer outlays, partly as a result of higher unemployment. Thus the Treasury deficit will widen to around 60 b.kr., equivalent to 4.6% of GDP. Part of the reason for the downturn in the Treasury balance in 2008-9 is an assumed drop in revenues from corporate taxation. However, if revenues in those years remain broadly unchanged from the level forecast in 2007, other things being equal, the Treasury would be in balance in 2008 and show a deficit of 3% of GDP in 2009, instead of 4.6%.

Similar trend for local and central government over the next years

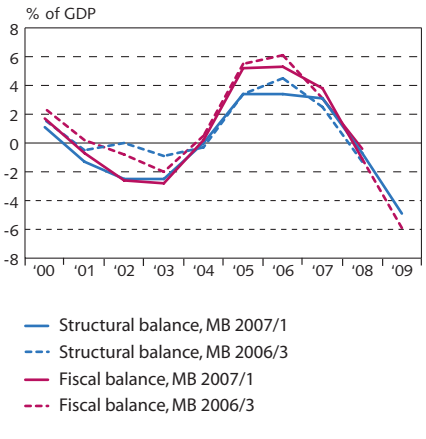
As mentioned above, the estimated local government balance improved considerably following the revision of the national accounts in March, to leave a surplus equivalent to half a percentage point of GDP in both 2005 and 2006.

Public consumption by local governments has been growing steadily in recent years and they have set their municipal tax rates almost at the ceiling authorised by the central government. Many local authorities have waived part or all of the extra real estate tax they could have earned from higher property valuations driven by surging house prices. Local governments have also invested heavily in infrastructure to match urban growth.

In the baseline forecast, the pattern of recent years will broadly continue in 2007. A stronger local government balance is forecast for 2007 than in 2006, because economic activity and earnings are still on the increase. In 2008 and 2009, however, house prices are forecast to fall and wage growth to slow down, leaving a local government deficit in the range 10-15 b.kr., equivalent to 1% of GDP in 2009.

Chart V-4

Structural balance of the public sector
2000-2009



Sources: Statistics Iceland, Central Bank of Iceland.

Table V-3 Local government 2005-2009[1]

% of GDP	*2005*	*2006*	*2007*	*2008*	*2009*
Revenues	13.0	13.0	13.1	13.3	13.4
Expenditures	12.5	12.5	12.6	13.4	14.5
Balance	0.5	0.5	0.6	-0.2	-1.1
Net debt	3.6	3.2	2.5	2.8	3.8
Total debt	6.7	6.3	5.7	6.1	7.2

1. National accounts presentation.

Sources: Statistics Iceland, Central Bank forecast 2007-2009.

Public sector cyclical balance

The Treasury balance is procyclical and generally improves during the expansion phase of the business cycle. Personal income tends to increase by more than the personal tax-free threshold, private consumption grows faster than public consumption and growth of income transfers slows down. As a rule, private consumption in Iceland tracks

an appreciation of the real exchange rate, imports grow and the composition of consumption shifts more towards luxury goods in high tax brackets. When the economy cools these trends tend to unwind and the public sector balance deteriorates.

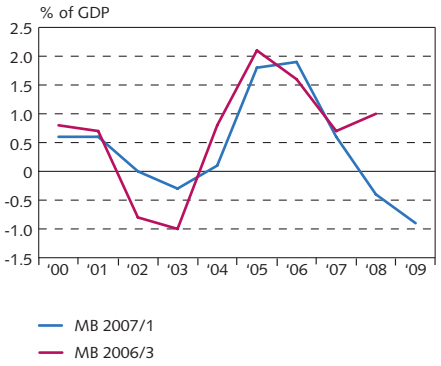
Chart V-4 shows the structural budget balance according to the current baseline forecast and in November 2006. The positive strucutural balance forecast for 2008 in *Monetary Bulletin* then has been revised to a deficit, reflecting weaker growth prospects in the current macroeconomic forecast and the lower estimated surplus for 2006. The change in the macroeconomic forecast is largely the result of the new approach to determining the policy rate path in the baseline forecast, as described in Section I. The revision for 2000-2004 from the previous forecast, on the other hand, derives from revised methods for compiling the national accounts.

Over 2002-2006 the public sector balance improved by 8 percentage points, as shown in Chart V-4. Chart V-5 shows that the cyclical impulse accounted for roughly 2 percentage points of the improvement. However, this is probably an underestimate. In fact the revenue forecast in Table V-1 assumes a stronger impact from the output gap and exchange rate movements. Revenues from corporate and personal financial income taxes explain 2 percentage points of the improvement, and another 2 percentage points are due to various expenditures that are linked to the price level in the short term and hence tend to lag behind GDP during upswings.

As pointed out earlier, the outlook is for the public sector balance to deteriorate by 11 percentage points of GDP over the period 2006-2009. In 2009 the deficit will be equivalent to 6% of GDP. The forecast implies that the output gap will swing from being positive by 3.2% in 2006 to negative by 2% in 2009. Routine public sector cyclicality explains just under one-third of the turnaround. Tax cuts, higher public sector investment and public consumption growth in excess of GDP growth largely account for the rest.

The cyclical nature of public sector finances is roughly proportional to the output gap. If the output gap turns positive by one percentage point, the structural balance is estimated to improve by about half a percentage point. With this, the cyclical component of the budget accounts for only a third of the deterioration of the fiscal balance between 2006 and 2009. Even if the effects of the cycle may be underestimated, it is quite clear that the public sector is heading for a deficit considerably in excess of the cyclical effect. Moderation is therefore essential in expenditures and tax policy over the next few years. Fiscal policy would then shoulder some of the burden currently borne by monetary policy.

Chart V-5
Cyclical contribution to public sector balance
2000-2009

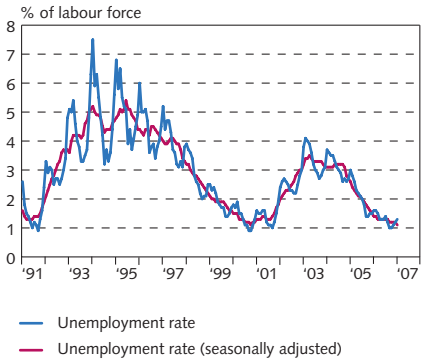


Source: Central Bank of Iceland.

VI Labour market and wage developments

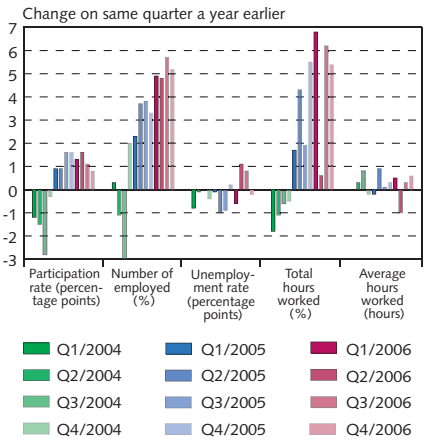
The demand for labour is still going strong by all plausible measures. Demand has increasingly been met with imported labour, since unemployment is negligible and the reserve of labour among the non-employed has not sufficed to fulfil it. Excess labour demand has been reflected in growing wage pressures, with the wage index rising at a record annual pace in 2006. The rate of increase of unit labour costs has exceeded the rate compatible with the inflation target by wide margins.

Chart VI-1
Unemployment rate
January 1991 - February 2007



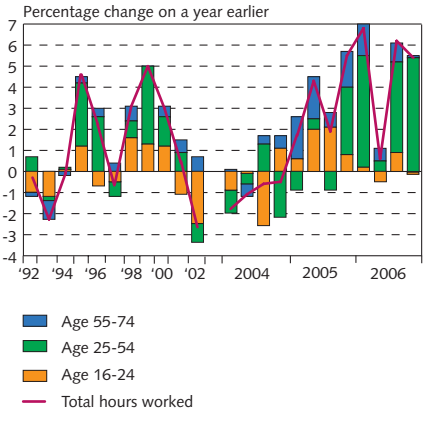
Sources: Directorate of Labour, Central Bank of Iceland.

Chart VI-2
Changes in labour market
2003-2006



Source: Statistics Iceland.

Chart VI-3
Labour use
Contribution of age groups to total hours worked



Source: Statistics Iceland.

Unemployment continues to shrink ...

The ability to draw on the unemployed part of the labour force to meet shortages has been quite limited lately. Joblessness is currently negligible. Unemployment continued to fall in 2006, by 0.8 percentage points to an average of 1.3% for the year. This is broadly in line with the Central Bank's forecasts last year. Seasonally adjusted unemployment also edged down over the first two months of 2007, to 1.1%. The baseline forecast for unemployment is broadly unchanged for the current year, but the rate is expected to increase as economic activity cools down, to almost 5% at the end of the forecast horizon.

... and labour use has increased by all criteria

According to Statistics Iceland's labour market survey, labour use in Q4/2006 rose sharply year-on-year by all criteria. Hours worked were up 5.4%, while average growth for the whole year was 4.7%. Since 2004, total hours worked have increased by 8.2% and employment by 8.6%.

From Q4/2005 to Q4/2006, the growth of employment was concentrated in the group aged 25-54. Over the previous three quarters, it was most pronounced in the youngest and oldest age groups, drawing from the non-employed labour pool.

Sharp increase in the inflow of foreign labour in 2006

The demand for labour from the aluminium and power sectors declined somewhat in the second half of 2006. Nonetheless, it remained robust and continued to be largely met with imported labour.

Official registration of foreign labour was altered with the opening of the Icelandic labour market for EU-8 nationals on May 1, 2006.[1] Since then, EU-8 nationals do not need work permits in Iceland, but their employers are obliged to notify the Directorate of Labour about their recruitment. The number of issued work permits decreased accordingly by around 1 thousand year-on-year in 2006, to just under 3 thousand, while new notifications of EU-8 nationals increased by about 4 thousand. The total number of foreign workers registered with the Directorate of Labour therefore amounted to almost 7 thousand.

1. EU-8: the 8 remaining EU accession states whose nationals were allowed free movement of labour on May 1, 2006, i.e. the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Box VI-1

The impact of foreign labour on inflation

There has been a sharp increase in the number of migrant workers in the Icelandic labour market in recent years. A larger working population increases the potential output of the economy and may affect wage and productivity developments and the level of unemployment that is compatible with a low rate of inflation. However, labour imports affect not only the supply side of the economy, but also the demand side, because migrant workers are also consumers of goods and services. The impact of foreign labour on supply and demand equilibrium is complex and the inflationary impact is not always straightforward.

Demand side impact

Imported labour affects demand in the economy through purchases of goods and services. Migrant workers buy food and consumer durables, and need housing. Their consumer behaviour is probably influenced by how long they intend to stay. A large proportion of the foreign labour force in recent years came to Iceland only for temporary work, especially on projects in the aluminium and power sectors. Their consumption over and above basic necessities is therefore probably lower than otherwise and they are likely to have made remittances of savings from their earnings. If this has been the case, the impact of foreign workers on demand will have been much slighter than if they intended to settle permanently in Iceland.

A larger permanent migrant labour pool increases demand for housing. Because of the lag between housing supply and demand, the unexpected boost to demand drives up housing prices. This in turn increases the mortgage capacity of house owners, thereby raising aggregate demand. However, much of the surge in house prices in Iceland in recent years is probably explained by other factors than increased demand from migrant labour, since a large proportion of them have been engaged in temporary work and lived in housing provided by their employers.

Supply side impact

An increase in the supply of foreign labour can have a substantial impact on wages and productivity, and thereby on inflation and monetary policy conduct. The scale of this impact is closely related to the characteristics of both the domestic and foreign labour force, and the interaction between them.

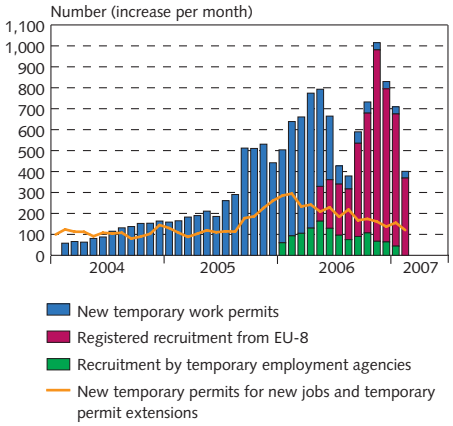
The wage impact may take three forms, with different inflationary impacts. If the imported labour force has a lower productivity rate than domestic workers, the reduction in total productivity may temporarily ease aggregate wage inflation, without affecting unit labour costs and inflationary pressures. Thus it would have no impact on monetary policy.

The impact on aggregate productivity would be zero if the imported labour replaces domestic labour with a similar productivity, but positive if it replaces less productive workers. Higher productivity would be reflected in lower unit labour costs, thereby easing inflationary pressures.

If the imported labour injects skills that are lacking, this boosts efficiency on the supply side of the economy while reducing wage inflation at the same time. Hence, increased supply of foreign labour should temper the growth in unit labour costs. A reduced mismatch between supply and demand can also lower the natural rate of unemployment, so unemployment can fall by more without forming inflationary pressures.

Inflationary impact
It is likely that the foreign input in the Icelandic labour market has had more effect on the supply side of the economy than on the demand side, thereby easing inflationary pressures. Given the age composition of the foreign labour pool and the relatively high proportion of males in it, they may be expected to have a higher participation rate than the average for Icelandic nationals. Since a large proportion of the migrant workers have only been temporarily employed, they are likely to have saved a larger share of their wages than domestic workers, with a correspondingly subdued impact on demand. Labour imports have therefore been a key factor in steering the economy through the turbulence of recent years and have helped to prevent inflation from running even higher than the current rate.

Chart VI-4
Foreign labour registered at the Directorate of Labour
3-month moving averages



Source: Directorate of Labour.

Icelandic and Polish nationals of working age increased by the same amount
According to Statistics Iceland's population figures, the number of foreign nationals of working age (16-74) increased by 4,650 in 2006, which is rather less than the number of employees notified to the Directorate of Labour. One reason for the discrepancy could be uncertainties in migration records, due to delays between issuance of residence permits and entry in the National Registry.

The number of Icelandic nationals of working age increased by much less (2,770) than foreign nationals. Polish nationals of working age increased by virtually as much (2,620) as Icelandic nationals over 2006.

Foreign nationals over 7% of employed persons
There are indications that the proportion of foreign nationals in the labour force increased considerably year-on-year in 2006. As a proportion of the employed, foreign nationals increased from 4½% in 2004 to 5½% in 2005. Foreign nationals as a proportion of the population of working age was the same in both years. In 2006, foreign nationals accounted for 7½% of the population of working age. If the correspondence between share in employment and working age population has remained broadly unchanged, foreign nationals could have accounted for more than 7% of the employed.

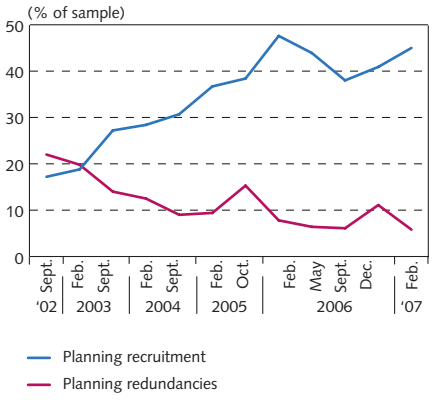
No indications of a slowdown in labour imports
In the first months of 2007, the number of new registrations at the Directorate of Labour has been a little below the average for 2006, at 400 per month. However, over the first two months of the year, the National Registry issued 2 thousand new ID numbers. Almost 70% of recipients were EU-8 nationals, which is a considerably higher figure than for registrations at the Directorate Labour. Thus there are no indications of a slowdown in supply of labour from these countries. However, the economic recovery and growing labour demand in Europe could induce EU-8 nationals to seek work closer to their home countries.

More businesses want to recruit

Regular surveys of the 400 largest companies in Iceland, commissioned by the Ministry of Finance, Confederation of Employers and Central Bank, provide leading indicators of labour demand.

A survey conducted in February shows no easing of demand from businesses compared with the previous survey in December 2006. Some 45% of companies now plan to recruit staff over the coming six months, which is 4% more than in the December survey. The number expecting to reduce their staffing fell to 6%. A considerable difference emerged according to location. Almost half the businesses in the Reykjavík area want to recruit staff compared with a third in regional Iceland, while many more regional companies want to cut back their workforce compared with those in or around the capital. Downbeat regional sentiment is reflected in the larger number of manufacturing companies planning redundancies in February 2007 than in December 2006. However, considerably more companies plan to recruit in all other sectors apart from retailing.

Chart VI-5
Recruitment and redundancy plans of businesses over the next 6 months



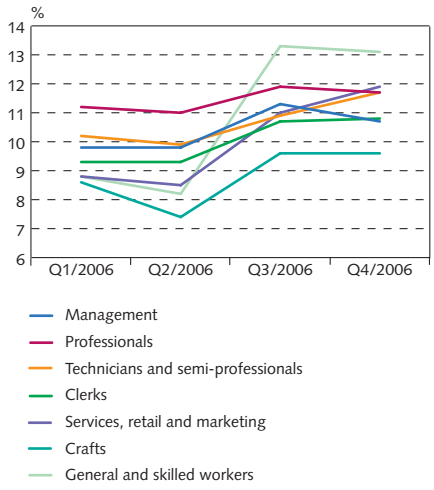
Source: Capacent Gallup.

Record private sector wage increases

The wage index rose by 9.5% year-on-year in 2006. This is the highest year-on-year change in general wages since the wage index was introduced in 1989. The previous peak was in 1998, following a public sector pay structure review. In 2006, wages increased by the same proportion in the public and private sectors.[2]

A spike was seen in private sector wages following a wage review agreed between the Icelandic Federation of Labour (ASÍ) and the Confederation of Icelandic Employers (SA) in mid-2006. According to the private sector wage index, wages rose 11.1% year-on-year in the second half of 2006.

Chart VI-6
Private sector wage index by occupational group



Source: Statistics Iceland.

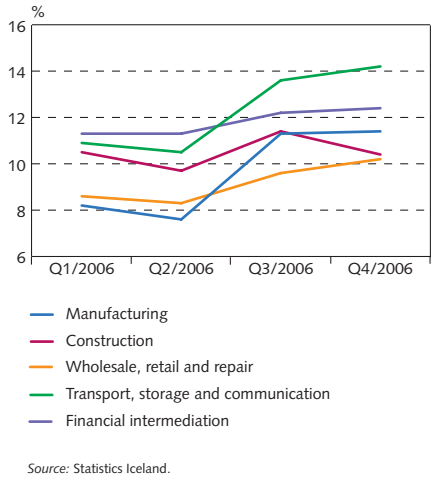
Manual labour wages increased the most ...

By occupational group, the sharpest increase in wages in the second half of 2006 was among manual workers (13.2%), as specifically aimed for in the ASÍ-SA agreement. Craftsmen showed the smallest increase (9.5%), but it should be borne in mind that the data reflect only changes in regular wages excluding bonuses, and therefore do not necessarily capture the impact of imported labour on the average wage level of this group. In the second half of last year, wages of other occupational groups increased at broadly the same rate as private sector wages.

... and retail sector wages the least

The highest wage rises by economic sector in the second half of the year were in communications and transport (13.9%) and financial services (12.3%).[3] To some extent, the higher rises in these sec-

Chart VI-7
Private sector wage index by sector

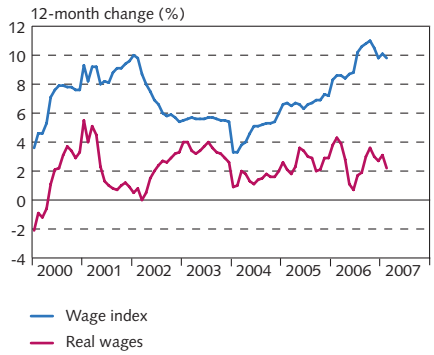


Source: Statistics Iceland.

2. Statistics Iceland recently published wage indices for 2005 and 2006 in which bank employees are classified with the private sector, given that most of the banking sector has been privatised since 2003. Statistics Iceland also now publishes wage developments by occupational group and economic activity.

3. The size of occupational groups varies between sectors. For example, few manual workers are employed in the financial intermediation sector, but a high proportion of professionals. Likewise, the manufacturing sector employs large numbers of manual workers but fewer professionals. Thus a correlation may exist between wage developments of individual occupational groups and sectors.

Chart VI-8
Wage index and real wages
January 2000 - February 2007



Source: Statistics Iceland.

tors over this period were scheduled in current wage settlements. Construction sector wages rose by less than private sector wages on average, reflecting the higher proportion of craftsmen. The retail and services sector was noticeably lowest (9.9%), probably due to a high staff turnover rate and an increase in the share of the younger age groups, although it may also indicate the temporary impact of foreign labour supply.[4]

Some wage drift still present

In spite of large contractual wage rises in 2006, some wage drift is still present, judging from the 3.5% rise in the January 2007 wage index. This increase was some way above scheduled increments in wage settlements for January 1.[5] Labour costs rose by half a percentage point at the same time, due to higher employer contributions to employees' basic pension funds.

Wage rises far in excess of productivity

The expansion of the labour market after it was opened for EU-8 nationals has probably eased underlying wage pressures quite considerably, which would explain why the Central Bank overestimated the wage rises implied by the ASÍ-SA agreement in the summer. As discussed in Box VI-1 on p. 37, productivity may have been boosted by labour imports, but hardly by enough to offset hefty wage rises in the recent term.

Uncertainty surrounds pending wage negotiations

Uncertainty about longer-term foreign labour supply is compounded by considerable uncertainty about wage developments over the coming years, as most wage settlements in the private sector expire at the end of 2007 and for the largest groups of public sector workers soon afterwards. The additional labour costs that the new settlements will entail, and their duration, are both quite uncertain. As a rule, the first wage rise agreed in a settlement is the highest, and the initial increase in the next round is unlikely to be lower than the 2.9% contractual increment from January 1, 2007.

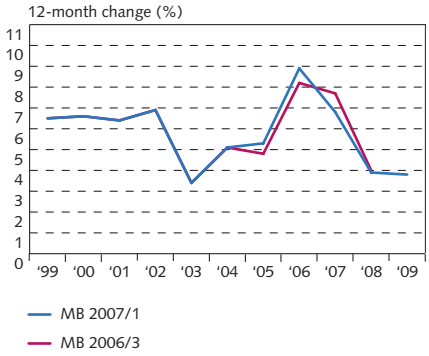
Inflation developments over the current period of wage settlements may argue against a long settlement period in the new round. One assumption has been that inflation would be on target, but a review clause was triggered twice while the current settlements have been in effect, when inflation exceeded the target. Nonetheless, real wages have risen by almost 7% since the settlement took effect in 2003. Wages of manual workers, which are most closely tied to negotiated settlements, have also risen sharply in recent years. Two factors will probably be crucial for the scale of wage rises negotiated in the next settlements, and their duration: supply of foreign labour and the social partners' confidence in whether the inflation target will be attained in the near future.

4. Employees who had not worked uninterrupted for the same employer since June 2005 did not qualify for the wage increases negotiated in the ASÍ-SA agreement from the summer.
5. The negotiated increment that took effect on January 1 was generally 2.9% but higher for some groups.

Slower rise in unit labour costs in 2007

The Central Bank's November forecast for the increase in labour costs in 2007 has been revised slightly downwards. Foreign labour has grown by considerably more than was assumed in that forecast, helping to contain wage drift. However, considerable wage pressures are still present in the domestic labour market and indicators point to even higher labour demand in coming months. Unit labour costs are therefore still expected to rise quite substantially in 2007, by 6.8%. According to the baseline forecast, labour cost growth will slow down further along the horizon in tune with slower wage growth. Pending wage settlements create some uncertainty about this assumption, however. Unit labour costs are forecast to increase by just under 4% annually in 2008 and 2009.

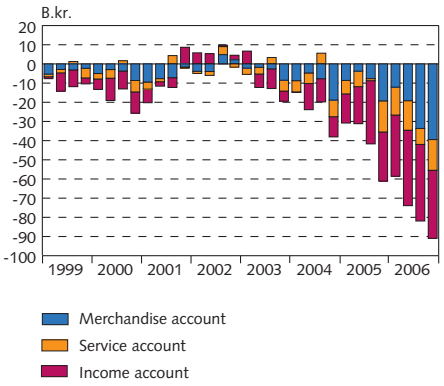
Chart VI-9
Unit labour cost 1999-2009[1]



1. Central Bank forecast 2007-2009.
Source: Central Bank of Iceland.

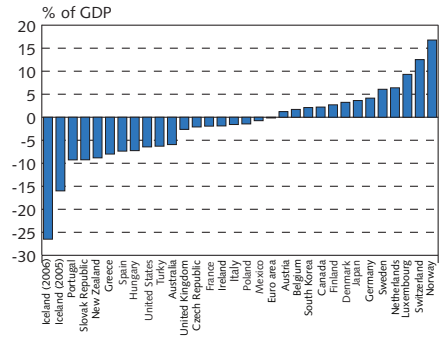
VII External balance

Chart VII-1
Current account balance components[1]
Q1/1999 - Q4/2006



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

Chart VII-2
Current account balance as % of GDP 2005[1]



1. With data for Iceland also for 2006.
Sources: OECD, Reuters EcoWin.

The current account deficit has repeatedly been underforecast. In 2006 it amounted to 305 b.kr., equivalent to more than one-quarter of GDP for the year. A deficit on such a scale has never been recorded in Iceland before, nor anywhere else within the OECD. The merchandise and service accounts in the second half of 2006 turned out broadly in line with the November forecast, but the deficit on income was much larger. The outlook is for the current account deficit to narrow much more slowly than was forecast in November. It is expected to remain above 11% of GDP in 2009, mostly reflecting soaring net interest payments to abroad.

Record merchandise account deficit explains almost half the current account deficit

The deficit on the merchandise account amounted to just over 148 b.kr. in 2006, the greatest ever recorded in Iceland. It corresponds to 61% of merchandise export revenues, compared with 49% in 2005.

The huge merchandise account deficit occurred despite a year-on-year improvement in the terms of trade equivalent to 1.1% of GDP. Merchandise exports were down in terms of volume, but up in value by more than 25 b.kr. (11.7%) year-on-year in 2006, at constant exchange rates. Excluding exports of ships and aircraft (which increased by 49% year-on-year at constant exchange rates), the growth edge was in aluminium exports, which rose in value by almost 42% at constant exchange rates. Most of the increased value of aluminium exports derived from higher prices, but volume grew by 6.5%. Aluminium accounted for 23.5% of total goods export value in 2006, compared with 18.5% in 2005. Marine product export prices also rose sharply. Export value of marine products gained 1% at constant exchange rates, despite a 6.3% contraction in volume.

In nominal terms, growth of goods imports outpaced exports quite significantly at constant exchange rates, by over 68 b.kr. (21%) year-on-year. More than half of the increase was accounted for by capital and operational goods. Imported commodities and operational goods jumped by almost one-quarter in value year-on-year, and imports of capital goods by 28% at constant exchange rates.

Fuel import volume shrank slightly over 2006, largely explained by less fuel consumption by the fishing fleet. Higher oil prices, on the other hand, drove up the value of fuel imports by almost 15% at constant exchange rates. Car imports shrank quite noticeably over the year as a whole; hefty growth in the first part of the year unwound after the sharp depreciation of the króna in February and March. Consumer durables and semidurables followed a similar pattern, soaring at the beginning of the year and declining later on.

Service account deficit widened as well

A deficit of 54 b.kr. was shown on the service account in 2006 and represented for roughly 18% of the current account deficit. For many years the largest service export item has been tourist spending in Iceland, and this was the case again in 2006. Tourism revenues

increased slightly, but spending abroad by residents grew much more. Transport and communications delivered a positive contribution to the current account balance despite a sharp drop in revenues year-on-year. Foreign travel by Icelanders is likely to remain strong in 2007, but an expected increase in tourism to Iceland will offset this to some extent.

Deficit on income more than doubled year-on-year

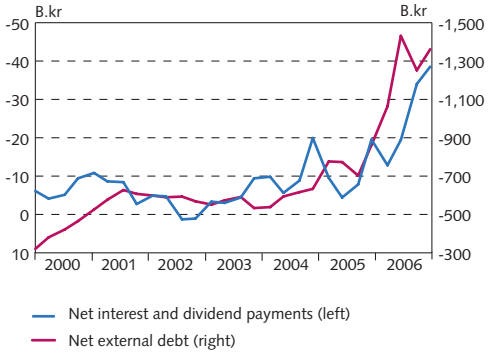
The balance on income was negative by almost 102 b.kr. in 2006, accounting for roughly one-third of the current account deficit.[1] The balance on income captures wage, interest and dividend flows to and from Iceland. Reinvested income, i.e. profits of residents' foreign businesses net of profits of non-residents' businesses in Iceland, is also classified under the balance on income. The bulk of the deficit on income was accounted for by net interest payments, which were negative by 89 b.kr., while net dividends and reinvested earnings were negative by 15 b.kr.

Highly negative net external position

Iceland's net external position continued to worsen in 2007 due to the enormous current account deficit over the year. However, the net external position is affected by more factors than funding of the deficit. It is quite susceptible to exchange rate movements. Thus the net external position was even worse when the króna was weaker around mid-2006. Offsetting this, higher prices of foreign shareholdings have a positive effect.

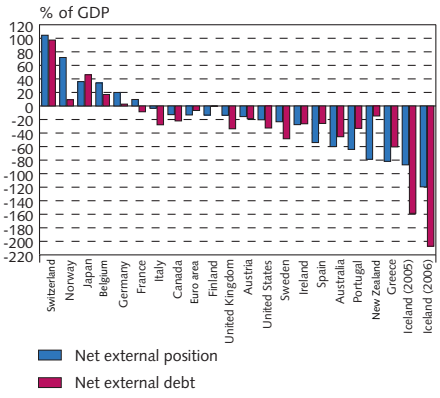
Total foreign liabilities amounted to 5,855 b.kr. at the end of 2006, and foreign assets 4,500 b.kr. The net external position was therefore negative by 1,355 b.kr. Iceland's foreign liabilities grew by more than 1,045 b.kr. in Q4/2006, roughly equivalent to total GDP for the year. The net debt position,[2] i.e. the net position excluding venture capital, is negative by 2,350 b.kr., equivalent to more than double GDP. Chart VII-4 shows Iceland's net external position and net debt position over the past two years, compared with selected OECD countries at the end of 2005.[3] In such a comparison Iceland emerges in a league of its own. Considerable errors both on the liabilities and assets side are conceivable. The reliability of these statistics has been debated in Iceland and elsewhere, partly because of the apparent discrepancy that sometimes occurs between income and expenditure flows and assets and liabilities. However, to a considerable extent such a discrepancy can be explained by wide variation in returns on individual components of the asset and liability stock and between periods. Given the enormous size of both the asset and liability stock, these errors can turn out very large relative to GDP.

Chart VII-3
Foreign debt and payments
Q1/2001 - Q4/2006



Sources: Statistics Iceland, Central Bank of Iceland.

Chart VII-4
Net external debt of selected advanced economies at end-2005[1]



1. Data for Iceland also for 2006.
Sources: International Monetary Fund, central bank websites, Central Bank of Iceland.

1. See further Box VII-1 on p. 45. A detailed study by Daníel Svavarsson and Pétur Ö. Sigurdsson on the balance on income and development of the net external position is planned for the next issue of *Monetary Bulletin* in July.
2. Net debt position excludes direct investment and equity investment, which are defined as venture capital.
3. Comparable data for 2006 are not available.

Little prospect of a sustainable current account deficit within three years

The current account has been in continuous deficit since the beginning of 2003. Although the economic literature offers no general definition of a sustainable current account, it is still safe to conclude that one on the scale of Iceland's in recent years cannot be sustained indefinitely. The question of how large a deficit can be sustained over a long period is difficult to answer. Narrowly defined, it could be considered sustainable if the accumulation of debt eventually stabilises at a certain ratio to GDP, given plausible long-term growth and interest rate assumptions. Such a definition may be inadequate, however, if debt stabilises at a position that leaves the economy excessively exposed to changes in external conditions, for example an increase in international interest rates. A useful alternative working definition of a sustainable deficit might be one that can be reversed without inducing a recession.

Even though the present deficit has largely been the result of investments in sectors of the economy that may be expected to generate substantial export revenues in the years to come, this does not necessarily mean that the adjustment towards a sustainable balance can be achieved without a sharp contraction in domestic demand. To a certain extent the adjustment of the trade deficit will begin of its own accord later in 2007, in the absence of further investments in the aluminium and power sectors.

As a result of the larger than forecast deficit in 2006, the current account deficit will take considerably longer to return to a sustainable level than was assumed in the baseline forecast in the November *Monetary Bulletin*, in spite of a much tighter monetary stance. The current account deficit will in fact shrink in 2007 and come down to 13½% of GDP in Q4. After that, the negative turn in the terms of trade and heavy debt service will act against reducing the deficit, even though the trade deficit decreases rapidly. The trade account is forecast at near-balance in 2010, with a deficit equivalent to less than 1% of GDP. A deficit of 8% of GDP will still remain on the income account. In order to achieve a sustainable deficit in the sense that debt accumulation stabilises, a handsome surplus is called for on the trade account. This is a serious signal indicating the need for lasting restraint in the economy over the coming years.

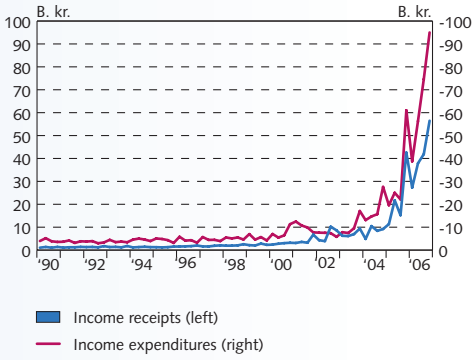
Box VII-1

Increased stocks of foreign assets and liabilities heighten volatility in net investment income

Only a few years ago merchandise trade was the dominating factor in Iceland's current account. In recent years the importance of the income account in the balance of payments has grown substantially. Income receipts and expenditure have grown exponentially as a result of extensive investment abroad by Icelandic residents. Both foreign and domestic investment has largely been financed by foreign borrowing. The income account comprises dividends and reinvested earnings from direct and portfolio investment, in addition to interest generated from other investment. Compensation to foreign employees is also counted among expenditures and compensation to Icelanders abroad as receipts in the income account.

The international investment position is not influenced only by the extent of foreign investment and borrowing. In addition to annual flows resulting from investment and loans, there are two other main factors. First, the revaluation of assets and liabilities to reflect changes in the exchange rate and market value. A large stock of foreign liabilities leaves the economy more exposed to changes in the exchange rate of the króna. Second, returns on different asset categories in the portfolio of foreign assets and liabilities vary, for example with regard to risk. If the composition of foreign assets and foreign liabilities differs, a mismatch can result between their respective returns. In theory, the net income account can be heavily imbalanced as a result, even though the net investment position is close to zero. The methodology for valuation and revaluation varies depending of the type of foreign investment involved. The stock of foreign direct investment, for instance, is entered at book value while the annual flow of direct investment is recorded at market value.[1] Portfolio investment is recorded at market value at the time the transaction occurs. Thus the combination of different types of investments can greatly impact how accurately the data reflect the market value of individual components of the asset stocks.

Chart 1
Income receipts and expenditures
Q1/1990-Q4/2006

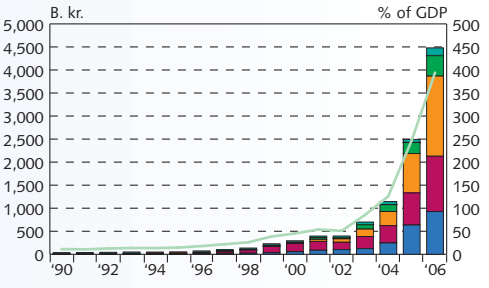


Source: Central Bank of Iceland.

A large proportion of foreign investment by residents is in equity

In 1995, the stock of foreign investment by Icelandic residents was equivalent to approximately 14½% of GDP. In 2006, only eleven years later, foreign assets had risen twenty-six-fold to 380% of GDP. The composition of foreign assets has also changed substantially over this period. In 1995, reserves and trade credit accounted for a significant portion of foreign assets but are now relatively unimportant. Instead, foreign lending now comprises 39% of foreign assets. The share of foreign equity (in portfolio investment) has also almost doubled to roughly a fifth of total foreign assets. Foreign direct investment was 928 b.kr. at the end of 2006, accounting for about 21%.

Chart 2
Foreign assets
Annual data



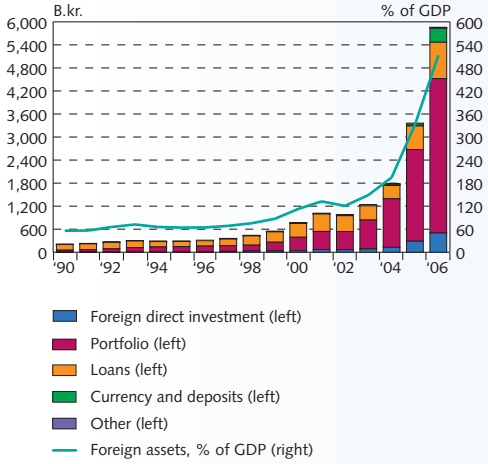
Source: Central Bank of Iceland.

Table 1 Composition of foreign assets in 1995 and 2006

	Foreign direct investment	*Equity portfolio*	*Debt securities*	*Loans*	*Currency and deposits*	*Trade credit*	*Reserves*
1995	19%	11%	10%	0%	13%	12%	34%
2006	21%	20%	6%	39%	10%	0%	4%

1. In their methodologies, the OECD and IMF recommend recording foreign direct investment at market value, while at the same time they acknowledge the difficulties involving the evaluation of unlisted companies. Lack of reliable data has hitherto hindered most countries, including Iceland, from recording foreign direct investment at market value. For the sake of compatibility of data it is preferable that as many countries as possible agree on applying either market value or book value.

Chart 3
Foreign liabilities
Annual data 1990-2006



Source: Central Bank of Iceland.

Table 2 Composition of foreign liabilities in 1995 and 2006

	Foreign direct investment	*Equity portfolio*	*Debt securities*	*Loans*	*Currency and deposits*	*Trade credit*	*Other*
1995	3%	0%	48%	46%	0%	2%	1%
2006	9%	6%	63%	16%	6%	0%	0%

The composition of foreign debt has also changed substantially in the past 11 years. However, unlike the portfolio of foreign assets, equity investment comprises only a relatively small proportion of foreign liabilities, at roughly 15%. The remaining 85% of the foreign liabilities are in interest-bearing categories.

The difference between the return on total foreign assets and liabilities in 2006 was -1.2%. However, the difference between individual categories was in some cases much greater. For instance, the return on inward foreign direct investment was 24.4%, but on outward foreign direct investment only 9.8%.

Table 3 Average return on foreign assets and liabilities in 2006

	Yield on assets (%)	*Yield on liabilities (%)*	*Difference (%)*
Total	4.4	5.7	-1.2
Direct investment	9.8	24.4	-14.6
Equity capital	11.0	29.9	-18.9
Other capital	2.3	0.6	1.7
Portfolio investment	1.6	3.9	-2.3
Equity	1.2	1.2	0.0
Debt securities	3.5	4.2	-0.7
Other investment	3.7	3.9	-0.2

When comparing respective average returns on direct investment and portfolio investment, it is important to bear in mind that different methodologies are used to measure them. As a result, the average return on direct investment is generally higher than on portfolio equity investment. The most significant difference involves generally low dividend payments and the fact that no adjustment is made to capture changes in market value.[2]

A much smaller difference was seen between returns on inward and outward portfolio investment, at only about 2.3% in favour of inward investment. This difference is explained solely by higher interest rates on Icelandic securities, as the return on outward and inward portfolio equity was identical in 2006.

Over the past few years, re-invested earnings from inward foreign direct investment have increased enormously, while re-invested earnings from outward direct investment have shown much less growth.

2. Furthermore, re-invested earnings are not accounted for in equity portfolio investment.

VIII Price developments

Inflation over the past five months was somewhat lower than in the forecast published in *Monetary Bulletin* in November. The forecast of 7.6% twelve-month inflation in Q4/2006 exceeded the actual outcome by 0.5 percentage points. The CPI remained unchanged from October to December after rising sharply since the beginning of 2006. Twelve-month inflation over Q1/2007 is heading for 6.4%.

Headline inflation decreased in March due to the first-round effect of a cut in indirect taxation on measured prices of food and other goods and services. The outlook is that headline inflation will come down in the coming months as the result of the ongoing impact of lower value-added tax (VAT) and commodity taxes, and the base effect of price rises a year before.

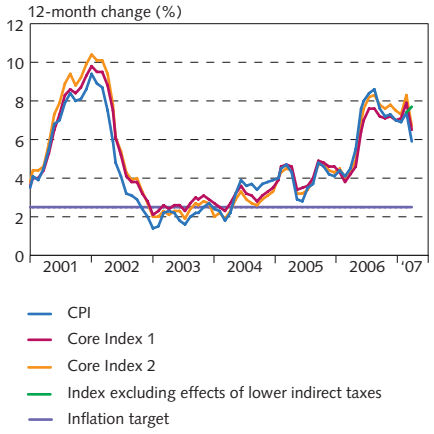
Divergent paths of headline and underlying inflation

Despite lower headline inflation, strong inflationary pressures can still be discerned in various components of the CPI. Services prices inflation has been on the increase and the cost of owner-occupied housing has risen in recent months. Twelve-month inflation rose again in February to 7.4%, after hovering around 7% since *Monetary Bulletin* was published in November. Lower prices of petrol and other volatile items recently have left core inflation considerably higher than headline inflation. The twelve-month increase in Core Index 2, which excludes volatile items and public sector services, amounted to 8.3% in February. Excluding housing, the CPI had risen by more than 6% over the preceding twelve months in February, and by 4% in March after consumption taxes were reduced.

The CPI fell by 0.3% month-on-month in March due to a reduction in VAT on food and other goods. Twelve-month inflation dropped to 5.9%, which is 3½ percentage points above the target. Alongside its inflation measurement in March, Statistics Iceland started to publish an index excluding the first-round effect of changes in indirect taxation, i.e. leaving VAT unchanged at the rate in February. That index provides an indication of how the change in indirect taxation is transmitted and is also an important measure of underlying inflation. It rose by 1.4% in March, just over one percentage point more than the CPI. Twelve-month inflation excluding the first-round effect of lower VAT amounted to 7.7%. By this measure, core inflation had risen since February to its highest rate since the peak in the summer. Core Index 2, excluding the tax effect, has risen by 8.4% over the past twelve months and the March figure was the highest since 2002. The first-round effect of lower indirect taxation will no longer be included in the inflation measurement after one year.

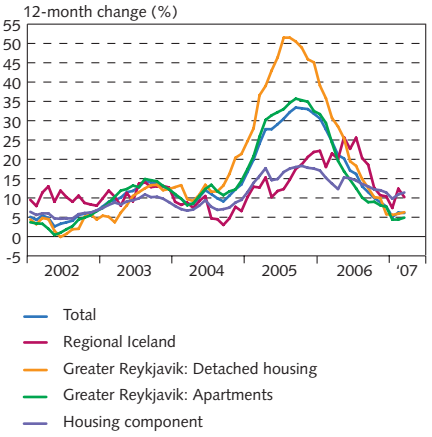
The base effect will have a considerable impact in the coming months when the price rises over the period March-June 2006 will no longer be included in the twelve-month inflation measurements (see Box VIII-1 on p. 50). The impact of a more than 1% rise in month-on-month inflation in March 2006 has now passed out of the twelve-month rate of change, but since the index excluding the impact of

Chart VIII-1
Inflation January 2001 - March 2007[1]



1. The core indices are compiled on the same basis as the CPI, with Core Index 1 excluding prices of agricultural products and petrol, and Core Index 2 also excluding prices of public services.
Source: Statistics Iceland.

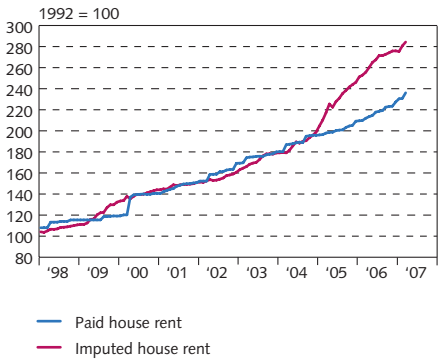
Chart VIII-2
The CPI housing component and market prices of housing Jan. 2002 - March 2007



Source: Statistics Iceland.

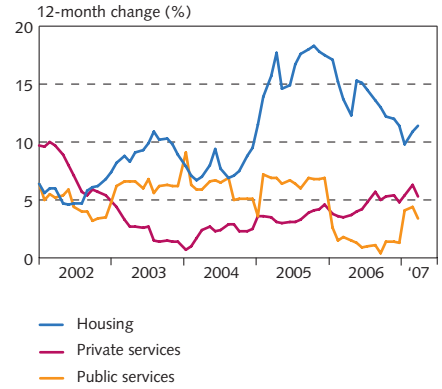
lower VAT rose by even more a year later, this base effect does not suffice to reduce twelve-month underlying inflation.

Chart VIII-3
Paid and imputed house rent
January 1998 - March 2007



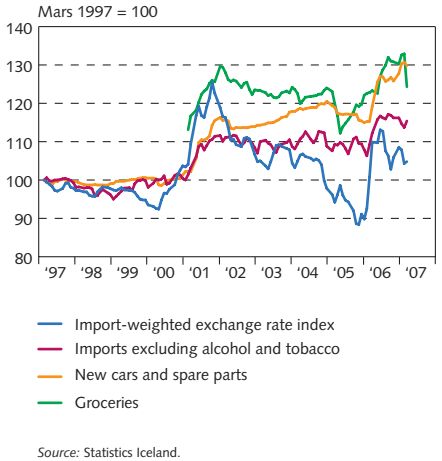
Source: Statistics Iceland.

Chart VIII-4
Prices of housing and services
January 2002 - March 2007



Source: Statistics Iceland.

Chart VIII-5
Import-weighted exchange rate and
import prices March 1997 - March 2007



Source: Statistics Iceland.

House price disinflation slows down

House price inflation had been steadily slowing down when *Monetary Bulletin* was published in November 2006. The housing market was expected to cool, as conditions for mortgage financing had deteriorated from the previous year. At the end of 2006, house price inflation had slipped behind headline inflation over the year, and real estate prices in and around Reykjavík had fallen by 2% in real terms since the beginning of the year.[1] In January 2007, the twelve-month rise in the housing component of the CPI was under 10%, the lowest since December 2004.[2] So far in 2007, however, house price inflation appears to have regained momentum and the real estate market has rallied. The contribution of housing costs to measured inflation still remains very high and accounts for half the rise in the twelve-month CPI.

At the beginning of March, twelve-month housing inflation measured 11.4%. The cost of owner-occupied housing had risen by more than 3% since the beginning of the year, contributing 0.5 percentage points to the CPI. Higher market prices accounted for 0.4 percentage points of the increase and higher real interest rates 0.1 percentage point. Interest rate changes have accounted for almost one percentage point of the increase in the CPI since the end of 2005.[3] Since the last *Monetary Bulletin* was published in November, interest rates have contributed marginally more to the housing component of the index than market prices, which dipped at the end of 2006. Other things being equal, however, the impact of higher real interest rates will begin to wane in the coming months when hikes by the commercial banks and Housing Financing Fund (HFF) a year earlier pass out of measured inflation. Paid rent has increased by 2½% since the beginning of the year. At the beginning of March, the twelve-month rise in paid rent had kept pace with owner-occupied housing costs.

The recent upswing in the housing market will probably prove short-lived. House prices remain elevated and supply of residential housing is growing rapidly. However, the HFF's recent increases in its loan-to-value ratio and mortgage ceilings, and the banks' responses to them, are likely to defer the adjustment by stepping up competition among credit institutions and boosting purchasing power in the housing market. Such measures also exert a sizeable influence on household expectations, which are already at a peak.

Favourable exchange rate developments have not prevented a rise in import prices

The króna has been fairly stable since November. Favourable exchange rate developments have eased underlying inflationary pressures slight-

1. Based on three-month moving averages.
2. The housing component of the CPI comprises imputed (owner-equivalent) and paid rent, and housing maintenance cost.
3. The impact of interest rate changes on the CPI is discussed in *Monetary Bulletin* 2006/3, p. 40.

ly, but because of firm domestic demand and the impact of wage rises and possibly higher commodity prices as well, prices of imported goods excluding petrol have increased considerably in recent months. In February, before indirect taxes were cut, the twelve-month rate of increase for food and beverage imports was unchanged since October 2006 at over 10%.

Around this time in 2006, prices of new cars jumped following the depreciation of the króna. They have kept on increasing recently in spite of the relatively stable exchange rate. The twelve-month rise in prices of new cars reached almost 13% in March, having risen on average by ½% every month since the autumn. Manufacturers' price increases due to higher commodity prices probably explain part of the hike. The recent fall in petrol prices has added a significant disinflationary impulse. In March, petrol had risen by just over 2½% over the preceding twelve months. The base effect of a spike in petrol prices a year earlier will pass out of measured inflation over the next few months, turning the twelve-month change in petrol prices negative.

Lower indirect taxes passed through to goods prices

VAT on food, catering and various other goods and services was lowered from 14/24.5% to 7% in March. Excise taxes were abolished on all foods apart from confectionery and sugar. Food and beverage prices decreased by 7½% in March, so the reduction in VAT was transmitted almost in full to goods prices. On the other hand, it has not yet been transmitted fully to catering sector prices. Prices of domestic goods excluding food have fallen by a little more than ½% over the past twelve months. There will be some lag in the pass-through of changes in excise taxes to goods prices, due to inventories held by producers and importers.

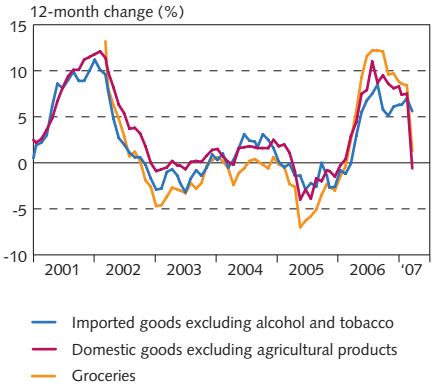
No let-up in services price inflation

Prices of private sector services have continued to rise since *Monetary Bulletin* was published in November. In February, the twelve-month increase in private services exceeded 6%, to reach the highest rate since summer 2002. Private services prices decreased in March by just over ½% as a result of lower VAT on items including catering, accommodation and road tariffs. Services inflation makes a fairly large contribution to measured inflation and private services account for more than one percentage point of the rise in the twelve-month CPI. There was a sizeable increase in services prices at the beginning of the year in pace with wage rises; the private sector wage index rose by 3½% in January. Although services inflation lagged slightly behind wage rises, it is likely to keep on drifting higher in light of the development of domestic demand and cost pressures.[4] However, the effect of foreign labour may prevent services price inflation from increasing by as much as increasing wages could suggest (see Box VI-1 on p. 37).

Prices of public services rose quite sharply in January when various hikes scheduled for the New Year went into effect. In March,

4. For a discussion of services price inflation, the exchange rate and wage costs, see *Monetary Bulletin* 2006/3, p. 44.

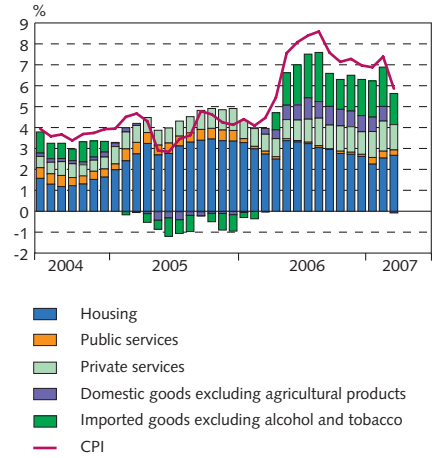
Chart VIII-6
Goods prices January 2001 - March 2007



Source: Statistics Iceland.

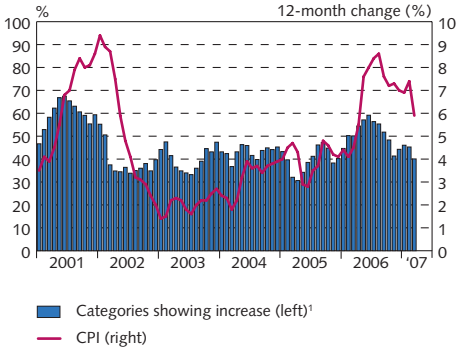
Chart VIII-7
Components of the CPI
June 2004 - March 2007

Contribution to CPI inflation in past 12 months



Source: Statistics Iceland.

Chart VIII-8
Extent of price increases in the CPI
January 2001 - March 2007



1. 3-month average in central month.
Source: Statistics Iceland.

Box VIII-1

Base effects in the CPI

The most common measurement of price changes is consumer price indices. The consumer price index (CPI) is calculated by Statistics Iceland and based on a monthly survey of prices and regular surveys of households' consumption patterns. The total index weighs together prices of goods and services in proportion to their weightings in households' consumer spending. The twelve-month percentage change in the CPI is normally used as a measurement of inflation and the Central Bank's inflation target is defined in such terms.

By using the twelve-month increase in the index the effect of seasonal fluctuations on measured inflation can be largely avoided, for example due to seasonal sales. Nonetheless, the twelve-month increase in consumer prices is not without flaws as a measurement of inflation. The twelve-month change in the CPI does not distinguish between recent price changes and price changes a year before. When changes in the CPI in the base month have a considerable effect on twelve-month measured inflation, this is commonly referred to as a base effect. Base effects are therefore the contribution to changes in the annual rate of measured inflation from abnormal changes in the CPI in the base period. It can make a considerable difference whether changes in inflation are caused by price changes in the current month, or by extreme price changes passing out of the twelve-month comparison.

Calculation of measured inflation

The annual inflation rate (π_t) is calculated as the percentage difference between the CPI in a given month (P_t) and the index value twelve months earlier (P_{t-12}):

$$\pi_t = (P_t/P_{t-12}-1)\text{x}100.$$

The difference between the annual inflation rates in two subsequent months is approximately equal to the difference between the month-on-month rate in the current month and the month-on-month rate twelve months earlier:

$$\pi_t - \pi_{t-1} = (P_t/P_{t-1} - P_{t-12}/P_{t-13})\text{x}100.$$

The change in the annual inflation rate between two subsequent months equals the difference between price changes in the measuring month and changes twelve months earlier. If the index increases abnormally in the period from t-13 to t-12 this will reduce the change in annual inflation between t-1 and t. Base effects can be defined as the contribution of price changes a year ago, (P_{t-12}/P_{t-13}), to the current change in inflation (see ECB, 2005, 2007).

Considerable base effects due to price changes in housing and groceries

Base effects are often very important when price movements are unusually large. Housing price inflation in 2005 is a good example. Owner-equivalent (imputed) rent increased monthly by 3.2% on average during the first four months of 2005.[1] Imputed rent carries a weight of 17% in the CPI and the price increase added almost 2 percentage points to the CPI. During the first four months of 2006 imputed rent increased monthly by 1.4% on average, considerably less than the previous year. The twelve-month change in imputed rent was 24% in December 2005 but had declined to 15% in April

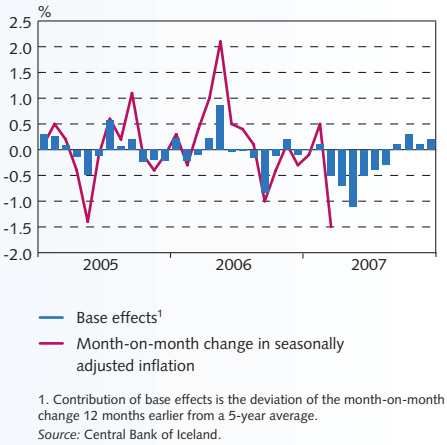
1. Owner-equivalent rent is the owners' housing cost and is calculated from the market price of housing and mortgage interest cost.

2006 when the impact of the price increase during the same period a year before had passed out of the measurement and been replaced by a smaller price increase.

Changes were made to the housing component of the CPI in May 2005 when Statistics Iceland shortened the reference period for computing real interest costs of housing from five years to twelve months. The impact of this change lowered the CPI by 0.45 percentage points in May 2005, which then passed out of measured inflation in May 2006, resulting in an increase in twelve-month housing inflation.

Competition in the grocery market in spring 2005 was another source of base effects. Temporary fierce competition for market share brought down prices of food and beverages by 10% over a four-month period. The impact lowered the CPI by 1½ percentage point. The twelve-month decrease in food prices was 1% in January 2006, before the base effect of the price decrease a year earlier appeared. In May the twelve-month increase in food prices was over 10%. The difference is largely explained by base effects.

Chart 1
Contribution of base effects to inflation
January 2005 - December 2007



1. Contribution of base effects is the deviation of the month-on-month change 12 months earlier from a 5-year average.
Source: Central Bank of Iceland.

Base effects in 2007

Base effects will have a considerable impact on the development of measured inflation in 2007. During the period March to June 2006 the CPI increased monthly by 1-1.45%. Housing inflation and an increase in the prices of imported goods, mainly new cars and petrol, added the most to the CPI during this period, a total of 2.6 percentage points. In the coming months the impact of these price increases will pass out of the twelve-month inflation figures. Inflation will therefore decrease, other things being equal.

Fluctuations in petrol prices had a considerable impact on inflation developments in 2006. Petrol prices increased almost continuously during the first half of the year but started to decrease in the autumn. Price changes in petrol added only 0.25 percentage points in total to the CPI during last year. Therefore the total base effect does not weigh heavily for 2007 as a whole, but rather in monthly developments. On the other hand, given an unchanged petrol price during 2007, the base effect will reduce twelve-month inflation considerably, most markedly until autumn.

Cuts in indirect taxes in March 2007

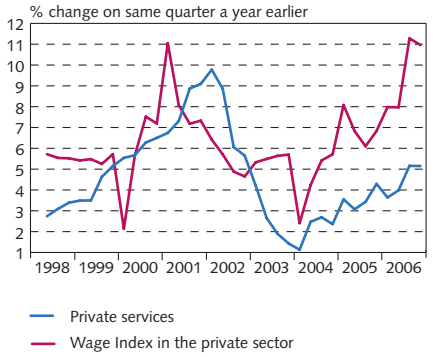
The government's plan to cut indirect taxes and excise taxes on food and other goods went into effect in March and shaved 1.4 percentage points off measured inflation. It is likely that a further impact will be felt in the next couple of months. Measured inflation decreases temporarily, until the impact of the price decrease passes out of twelve-month inflation figures after one year. The base effect will lead to a considerable increase in measured inflation in spring 2008. Central banks normally do not consider the first-round effect of changes in consumption taxes on inflation since they do not entail changes in underlying inflation pressures. This can be done by calculating an index excluding these effects, or simply focusing on a longer horizon than one year, when the base effects have surfaced.

References

ECB. (2005). Base effects and their impact on HICP inflation in early 2005. *Monthly Bulletin* January: 31-33.

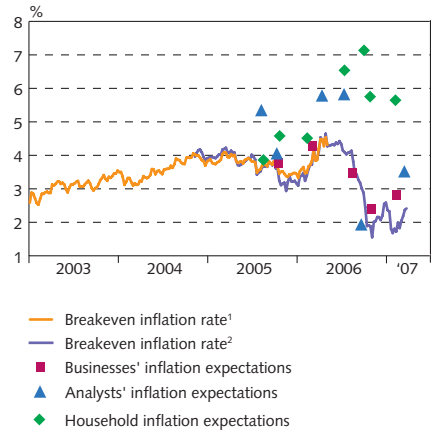
ECB. (2007). The role of base effects in driving recent and prospective developments in HICP inflation. *Monthly Bulletin* January: 33-35.

Chart VIII-9
Wage index in the private sector and private services
Q2/1998 - Q4/2006



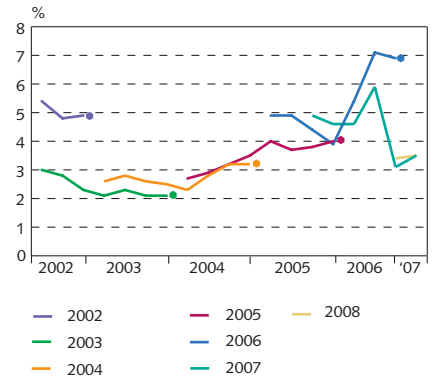
Source: Statistics Iceland.

Chart VIII-10
Inflation expectations
Weekly data January 7, 2003- March 27, 2007



1. Spread between RIKB 13 0517 and RIKS 15 1001. Spread between RIKB 13 0517 and HFF150914. Household, business and analysts' inflation expectations are based on inflation one year ahead.
Source: Central Bank of Iceland.

Chart VIII-11
Financial market analysts' forecasts for average year-on-year inflation[1]



1. Points show actual rate of inflation for each year.
Source: Central Bank of Iceland.

public services prices decreased by almost 1% due to lower VAT on broadcasting licence fees, electricity and heating. The twelve-month increase was just over 3%.

Conflicting development of inflation expectations recently

Inflation expectations have risen by some measures since November. In a survey of business sentiment among Iceland's largest companies, conducted on February 2-28, executives forecast 2.9% inflation on average over the next twelve months, up from 2.2% in the December 2006 survey.

In another survey in March (see Box IV-1 on p. 30), financial market analysts fractionally upped their inflation expectations in 2007 from the forecast published in *Monetary Bulletin* in November. On average, analysts forecast 3½% inflation year-on-year in 2007 and the same rate in 2008, which is broadly unchanged from their previous forecast.

Household inflation expectations edged downwards in a survey conducted on February 21-26. On average, households expected 5.7% inflation over the next twelve months, only 0.2 percentage points less than in a survey conducted in October 2006. Thus household and business inflation expectations diverge quite sharply. Households apparently expect underlying inflationary pressures to hold firm, and do not foresee the inflation target being attained. It is likely that household inflation expectations heavily reflect past inflation, which has been running high for a long time. Measured by the breakeven inflation rate in the bond market, inflation expectations have inched up since the last *Monetary Bulletin* was published. Between November 7 and March 27, market agents expected on average an inflation rate of 2%.

IX Inflation forecast

Inflation lower than expected

Inflation in Q4/2006 was lower than forecast in the last *Monetary Bulletin* in November, as pointed out above. The outlook is likewise that inflation in Q1/2007 will be lower than forecast then. This is overwhelmingly caused by a revised estimate of the timing of the impact of cuts in indirect taxation on the measured CPI, and the stronger than forecast króna in Q4/2006 and so far this year.

With a more favourable starting point, the inflation outlook until the end of 2007 is better than in the November forecast. Inflation is likely to move close to target in mid-2007, half a year earlier than projected in the alternative scenario based an an endogenous monetary policy response published in the *Monetary Bulletin* in November (see Chart IX-1 and Table 2 on p. 67 in Appendix 3). Underlying cost pressures appear to have had less inflationary impact than was feared in the winter. Competition and consumer awareness appear to have played a part in preventing these cost effects from being passed to prices in spite of sizeable underlying demand pressures, or at least have delayed them. However, the risk remains that these cost pressures will ultimately pass through to inflation.

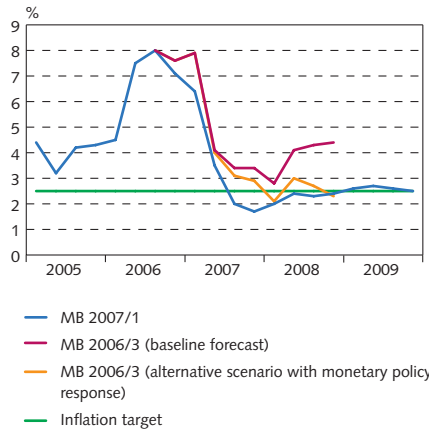
The policy rate has been raised and the monetary stance is tighter than implied by the November baseline forecast

The inflation outlook for 2008 is considerably brighter than was implied by the November baseline forecast. However, the two forecasts are not fully comparable because of the changed methodology used to determine their policy rate paths, as described in Section I. The monetary stance is much tighter than in the November baseline forecast, reducing the output gap and contributing to an appreciation of the króna.

The Central Bank raised its policy rate by 0.25 percentage points in December. Market agents were not expecting this hike when surveyed in October and had predicted a cut in the policy rate early in 2007. The path in the baseline forecast incorporates this hike and assumes that the policy rate will remain unchanged until Q4/2007. It therefore implies a considerably tighter monetary stance than the November baseline forecast, which was based on expectations of market agents and financial market analysts. Nonetheless, the current outlook is not unlike the alternative scenario based an an endogenous monetary policy response in the last *Monetary Bulletin* in November. The current policy rate path is somewhat lower (Chart IX-2), due to the improved short-term outlook as described above. A tight monetary stance anchors expectations to ensure that long-term inflation will be compatible with the target.

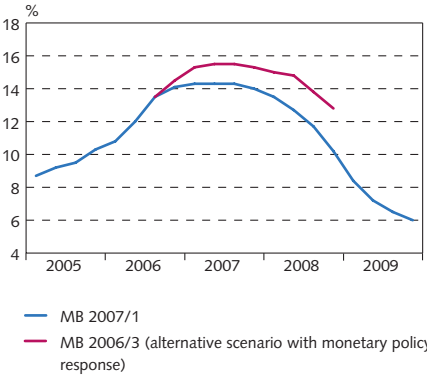
Despite its limited short-term impact, the higher policy rate prevents inflation from picking up again in the baseline forecast when the effects of cuts in indirect taxes pass out of index measurements early next year. Unlike the November baseline forecast, inflation remains close to target along the horizon, because the policy rate path is set so as to ensure that it does.

Chart IX-1
Inflation – comparison with MB 2006/3



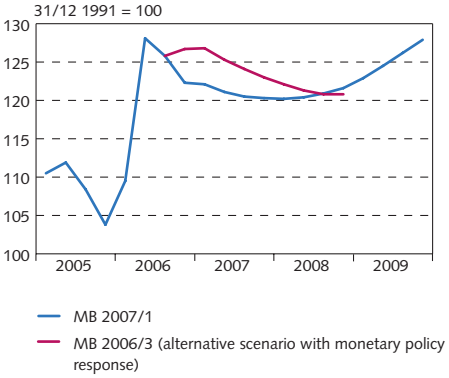
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IX-2
Policy rate – comparison with MB 2006/3



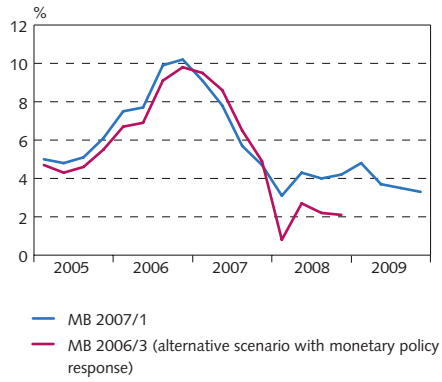
Source: Central Bank of Iceland.

Chart IX-3
Effective exchange rate – comparison with MB 2006/3



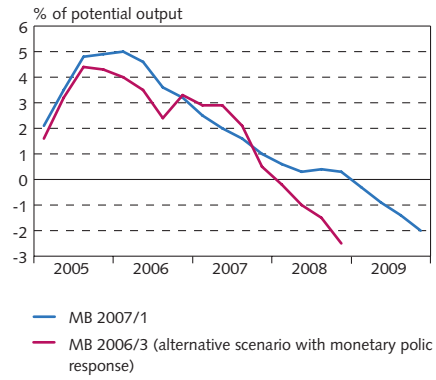
Source: Central Bank of Iceland.

Chart IX-4
Unit labour cost – comparison with MB 2006/3



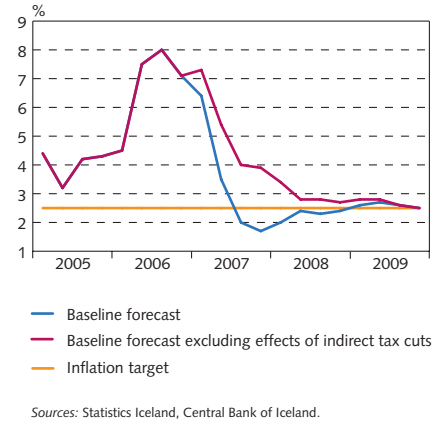
Source: Statistics Iceland, Central Bank of Iceland.

Chart IX-5
Output gap – comparison with MB 2006/3



Source: Statistics Iceland, Central Bank of Iceland.

Chart IX-6
Inflation including and excluding indirect tax effects



Sources: Statistics Iceland, Central Bank of Iceland.

Stronger króna projected than in the November forecast

The depreciation of the króna in December 2006 has unwound so far this year. On average, the króna has been stronger than projected in *Monetary Bulletin* in November (see Chart IX-3). In the baseline forecast the króna remains relatively strong along the horizon, but later on in 2008 depreciates somewhat.

Unit labour costs still growing rapidly, but slower than forecast in November

As discussed in Section VI, unit labour costs have also risen sharply in the recent term, far in excess of a level compatible with the inflation target. As a result of the tight labour market, the outlook is for unit labour costs to continue to rise briskly until 2009. In 2007, however, the rate of increase will be slower than forecast in November (see Chart IX-4).

Due to a revised estimate of productivity growth, the increase in unit labour costs in 2005-6 has been revised upwards. This also applies to 2008, but as a result of revised estimates of labour force growth, productivity is projected to grow at a slower pace from then onwards than forecast in November.

Smaller output gap in 2006 than forecast in November

As discussed in Section IV, recent data indicate somewhat lower GDP growth over the past two years than preliminary estimates had shown. Nonetheless, the output gap at the end of 2006 is estimated broadly unchanged from the November forecast, but rather less in 2007 than projected at that time in the alternative scenario with an endogenous monetary policy response (Chart IX-5). The output gap will close more slowly in 2008, since a smaller contraction of output is now expected to be required in order to attain the inflation target. The current outlook is that the output gap will not turn negative until early in 2009.

Underlying inflation decreases more slowly than headline inflation

On the basis of Statistics Iceland's estimates, lower indirect taxes are expected to bring down the CPI by roughly 1.9%. Most of the impact was passed through to measured prices in March, but some effect is also expected in April. Rapid disinflation over the next few months is largely the result of these tax cuts, compounded by a sizeable base effect. The tax effect will be short-lived and have little influence on underlying inflation. Other things being equal, inflation will be slightly higher in the second half of the forecast horizon because the tax cuts boost real wages and ease the fiscal stance. In the baseline forecast, a tighter monetary stance offsets this effect.

As seen in Chart IX-6, the outlook is that underlying inflation, i.e. excluding the tax effect, will head downwards as well in the near term. However, it will decrease more gradually than headline inflation. Underlying inflation will be as much as two percentage points above headline inflation from Q2/2007 until Q1/2008, when the base effect of the tax cuts largely disappears. Thus the inflation outlook towards the end of the horizon is broadly the same, whether one looks at headline or underlying inflation.

Main risks to the forecast have not changed much

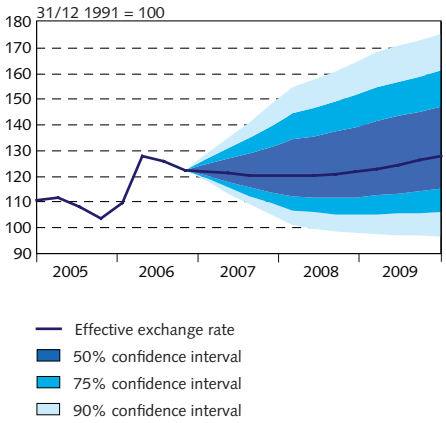
The baseline forecast and its policy rate path are based on the Central Bank staff's assessments of economic developments over a three-year horizon. Such forecasts are invariably fraught with uncertainties, but exceptionally so in the current climate where imbalances are so huge that historical precedents are lacking, making it more difficult to design a forward-looking monetary policy.

Table IX-1 Main asymmetric uncertainties in the baseline forecast

Uncertainty	*Explanation*
Exchange rate developments	Wide current account deficit could exert more downward pressure on the króna than is assumed in the forecast
Private consumption	Falling asset prices and growing debt service could curtail private consumption growth beyond what is shown in the baseline forecast
Public sector finances	A potentially laxer fiscal stance than assumed in the baseline forecast, due to the general election in 2007
Wage costs	Wage rises in connection with forthcoming national settlements could be underestimated
Global economy	The speed and scale of rises in foreign interest rates could be underestimated, increasing external debt service beyond what is assumed in the baseline forecast
Planned investments in aluminium and power sectors	Decisions on investments in aluminium-related projects in 2008 could spur confidence and bolster the króna and domestic demand, ultimately generating inflationary pressures
Transmission of monetary policy	If the transmission of monetary policy is stronger than assumed in the baseline forecast, disinflation could be faster

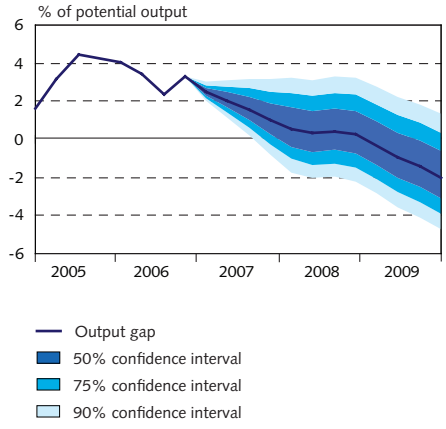
Central Bank risk profile	*One year ahead*	*Two years ahead*	*Three years ahead*
Monetary Bulletin 2006/2	Upward	Symmetric	...
Monetary Bulletin 2006/3	Upward	Upward	...
Monetary Bulletin 2007/1	Upward	Upward	Upward

Chart IX-7
Effective exchange rate
Forecasting period: Q1/2007 - Q4/2009



Source: Central Bank of Iceland.

Chart IX-8
Output gap
Forecasting period: Q1/2007 - Q4/2009



Sources: Statistics Iceland, Central Bank of Iceland.

As Table IX-1 shows, the main uncertainties are broadly unchanged. There is still considered to be some risk that the króna will weaken in light of the substantial current account deficit (see further Box IX-2 on p. 58). Likewise, the inflation outlook could deteriorate if the fiscal stance turns out slacker than forecast and further investments in the aluminium and power sectors are decided within the forecast horizon. The baseline forecast does not assume any new investments in the aluminium and power sectors (see further Box IX-2). Offsetting this, a greater fall in asset prices than assumed in the baseline forecast, with quicker monetary policy transmission, could reduce underlying inflationary pressures. Although higher international interest rates could prompt a depreciation of the króna and short-term inflationary pressures, they would expedite monetary policy transmission across the yield curve and narrow the output gap in the long run. Wage increases in connection with forthcoming national settlements could

Box IX-1

Calculation of confidence intervals

Forecasts for the main economic variables are fraught with uncertainty. Central banks therefore frequently publish forecasts with confidence intervals. The Central Bank of Iceland has published its inflation forecast with confidence intervals in the past, but in this issue of *Monetary Bulletin* it also publishes forecasts for the policy rate, output gap and exchange rate with confidence intervals, as seen in Charts XI-7 to XI-11.

When computing the uncertainty underlying a forecast, an assessment is first made of the underlying factors in the development of inflation, including the exchange rate and the output gap. This involves evaluating the size of the uncertainty and the probability of risk being upwards or downwards, in order to yield the confidence intervals and the probability distribution of the inflation forecast.[1] Finally, an assessment of the probability distribution of the baseline forecast policy rate path is made, based on the probability distribution of the inflation forecast.

Estimation of the probability distributions of these four economic variables is based on the assumption that the forecast errors are normally distributed, but to allow for asymmetric probability distribution the risk profile is based on a two-piece normal distribution for each quarter.[2] An asymmetric distribution allows more than 50% of the outcomes to be on either side of the mode, i.e. the probability distribution can be skewed either upwards or downwards. When the probability distribution is symmetric, as in the case of a normal distribution, the probability of the outcome being above or below the mode is identical. The skewness of the probability distribution is not estimated from historical data but assessed by the Central Bank's staff.

Calculation of the uncertainty surrounding the output gap is based on historical forecast errors.[3] An assessment of historical forecast errors for the exchange rate is difficult since it has only been forecast by the Central Bank for a short time – baseline forecasts were previously based on the assumption of an unchanged effective exchange rate from the day of the forecast. The forecast errors for the exchange rate are therefore based on historical standard deviations of the exchange rate for 1-3 years.[4] The probability distribution of the inflation forecast is then a weighted probability distribution of the underlying factors. The standard deviation and the skewness of the underlying factors are reflected in the inflation forecast.

The uncertainty in the policy rate path needs to reflect the uncertainty in the inflation forecast. Accordingly, the shape of the probability distribution of the inflation forecast affects the shape of the policy rate probability distribution. If, for example, the probability distribution of inflation has an upward skew (which means that it is more likely that inflation will be above the baseline forecast than below) the policy rate will also have an upward skew (which means that it is more likely that the policy rate will be above the baseline forecast than below). It is not as straightforward to assess the standard deviation of the policy rate distribution. Normally the historical forecast errors would be used, but the baseline forecast with variable policy rate has hitherto been based on forward rates

Chart 1

Policy rate and market expectations in *Monetary Bulletin* 2004/4-2006/3[1]

1. Market expectations are based only on implied forward rates until *Monetary Bulletin* 2005/3 but after that also on survey results.

Source: Central Bank of Iceland.

1. Uncertainty in the Central Bank's inflation forecast is described in detail in Appendix 3 of *Monetary Bulletin* 2005/1, pp. 60-63.
2. See *Monetary Bulletin* 2005/1, pp. 60-63.
3. In estimating forecast errors for the output gap, it should be borne in mind that historical data on GDP and the output are often revised, which also affects later forecasts.
4. In fact, the size of standard deviations in exchange rate movements generally tends to be close to forecast errors for the exchange rate, given the difficulty of forecasting exchange rates.

and analysts' projections.[5] Chart 1 presents these interest rate forecasts along with the actual policy rate. The forecast errors are large, although this period can hardly be indicative of future forecast errors since the economy has been overheated and monetary policy continuously tightened. Also, excess demand for nominal bonds, which are used to compute the implied forward rates, has kept the yield curve low. Implied forward rates contain a risk premium, which implies that even if the economy had not been overheated, this would have added to the policy rate forecast error. Historical forecast errors based on forward rates and analysts' projections are no longer relevant either, since the Bank's own published interest rate path is based on different assumptions. Finally, it should be kept in mind that there are very few observations behind historical forecast errors. The standard deviation of the policy rate's probability distribution is therefore based on historical forecast errors, but taking into account the policy rate paths of the alternative scenarios.

5. The Central Bank has published alternative scenarios based on its own policy rate forecast since *Monetary Bulletin* 2004/4. However, until now the baseline forecast has assumed an unchanged policy rate from the day of forecast, or expectations of market agents and financial market analysts based on the average of forward rates and forecasts by four Icelandic analysts.

also be underestimated. On the other hand, it cannot be ruled out that labour imports have affected the labour market more than is assumed in the baseline forecast (see Box VI-1 on p. 37).

Risk profile tilted to the upside

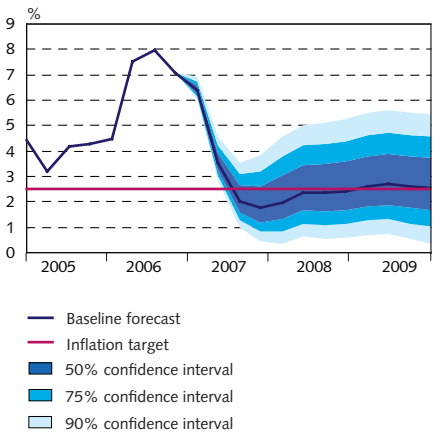
In assessing the economic outlook over the forecast horizon, it is important to consider not only the baseline forecast but also the risk profile: both the overall assessment of uncertainties and the alternative scenarios for the impact of specific risks. For the first time, the Central Bank is presenting confidence intervals not only for inflation developments but also for two of the main determinants of inflation, namely the exchange rate and the output gap. Finally, confidence intervals are shown for the policy rate path itself. Box IX-1 on p. 56 describes in more detail how these uncertainties are estimated.

As Chart IX-7 shows, the confidence intervals of the exchange rate are very wide, reflecting the great uncertainty that exchange rate forecasting invariably entails. Reflecting the overview of risks in Table IX-1, the probability distribution is tilted to the upside, i.e. it is considered to be more likely that the strength of the króna is overestimated rather than underestimated in the baseline forecast. Likewise, the negative output gap is considered more likely to be overestimated than underestimated (Chart IX-8). Accordingly, the probability that inflation will be higher than in the baseline forecast is greater than 50% (see Charts IX-9 and IX-10).

Significant probability that a tighter monetary stance will be needed than projected in the baseline forecast

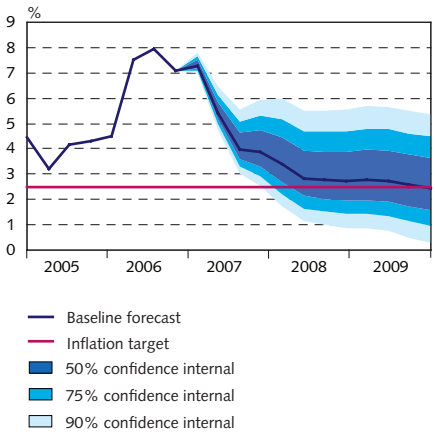
Uncertainties in assessing the macroeconomic and inflation outlook make the policy rate path that is required to bring inflation to target within the forecast horizon highly uncertain. Monetary policy will

Chart IX-9
Inflation
Forecasting period: Q1/2007 - Q4/2009



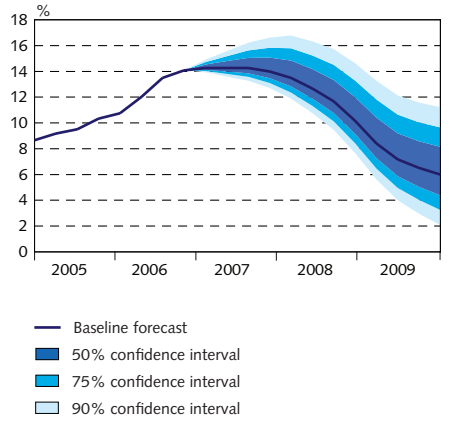
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IX-10
Inflation (excl. effects of indirect tax cuts)
Forecasting period: Q1/2007 - Q4/2009



Sources: Statistics Iceland, Central Bank of Iceland.

Chart IX-11
Policy rate
Forecasting period: Q1/2007 - Q4/2009



Source: Central Bank of Iceland.

need to respond if economic developments unfold differently from the baseline forecast. Box IX-2 on p. 58 gives two scenarios showing how a divergence from the baseline scenario can prompt changes in the policy rate path. In one alternative scenario, a deterioration in global financial conditions causes the króna to depreciate. Another scenario examines the impact of new investments in the aluminium and power sectors. Numerous other scenarios could be imagined. For example, a different transmission of monetary policy from that assumed in the baseline forecast would also mean that the Central Bank would have to change the policy rate from the projected path, in order to bring inflation to target.

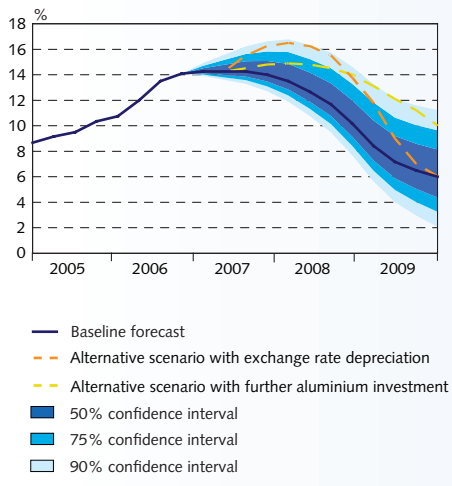
Chart IX-11 shows how the tilt of the inflation forecast risk profile is reflected in a corresponding tilt in the risk profile for the policy rate path. Thus the probability that the required policy rate will lie above the path in the baseline forecast is significantly greater than the likelihood of the policy rate path falling below it. Given the probability distribution for the policy rate path, there is a high probability that the policy rate will be in the range 13½-15½% on average in Q2/2007 and in the range 12¾-16½% in Q4. Further along the forecast horizon the confidence interval increases sharply, showing the great uncertainty currently surrounding economic developments.

Box IX-2

Alternative scenarios

Economic developments will never unfold exactly as assumed in a baseline forecast and the deviations are often large. For this reason it is useful to analyse how sensitive the forecast results are to probable deviations in the development of various key economic aggregates. The number of potential sources of deviations from the baseline forecast is of course unlimited, but it is important to identify and assess the main sources of risk at any time. Alternative scenarios play an important role in the assessment of the risk profile of the baseline forecast.

Chart 1
Policy rate – alternative scenarios
Forecasting period: Q1/2007 - Q4/2009



Source: Central Bank of Iceland.

The monetary stance will need to be tightened if the króna depreciates by more than in the baseline forecast

As described in the main text, the current account deficit is at a record level and the outlook is for a considerably more gradual decline than was projected in previous forecasts, although the trade account will move to balance within the forecast horizon. Nonetheless, the króna is projected to remain fairly strong over the forecast horizon according to the baseline forecast, with its tight monetary stance. The risk of a significant depreciation of the króna beyond what is projected in baseline forecast, i.e. should global financial conditions become less favourable, must be considered substantial.

The alternative scenario assumes that the króna depreciates in the second half of 2007, when large amounts of króna-denominated bonds issued by foreign investors mature. The króna is assumed to depreciate by a total of 20% from the baseline forecast in Q3 and Q4/2007. At the same time, international investor risk aversion is assumed to increase, causing the spread on Icelandic residents' foreign liabilities to increase by 1.5 percentage points.

As Chart 1 shows, an immediate policy response is assumed from the Central Bank, which raises the policy rate to prevent expectations from rising with increasing inflation. The policy rate rises above 16% in the first half of 2008, before it begins to head back

down. Nonetheless, it remains higher than in the baseline forecast until the second half of 2009.

Even a sharp rise in the policy rate does not suffice to prevent a temporary increase in inflation in the wake of the depreciation. Inflation is 1½ percentage points above the baseline forecast at the end of 2007 and peaks in mid-2008 at 2½ percentage points higher (see Chart 2). Subsequently, inflation gradually wanes and is back to the target at the end of 2009, roughly two years later than in the baseline forecast.

A timely monetary policy response is needed to new investments in the aluminium and power sectors

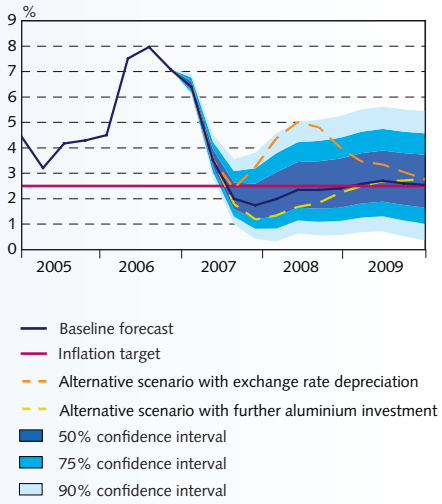
The baseline forecast does not assume any further investment in the aluminium and power sectors within the forecast horizon. The Central Bank's policy has always been not to take such investments into account until there is a high probability that they will be realised, but to incorporate them into the risk profile for the forecast instead. However, if plans for large-scale investments materialise, demand for domestic factors of production would increase by considerably more than assumed in the baseline forecast. Inflation pressures would then be correspondingly higher, although possibly tempered by the stronger króna, at least initially.

To estimate the potential impact that further investments in the aluminium and power sectors would have on economic developments and monetary policy, the scenario assumes a 280 thousand-tonne expansion to the Straumsvík smelter and construction of a 240 thousand-tonne smelter in Helguvík in two phases of 120 thousand tonnes each. Total cost of smelter and power plant construction is estimated at 11 b.kr. in 2007, 45 b.kr. in 2008 and more than 100 b.kr. at the peak in 2009. Thus a total investment of more than 150 b.kr. is assumed over the forecast horizon until the end of 2009. However, total investment cost on the projects is estimated almost twice as high, at close to 290 b.kr. (roughly 25% of GDP in 2006), spread over the period 2007-2014 but mostly concentrated in 2008-2011 (accounting for 90% of the total cost). Increased labour use required by these investments is assumed to be 4,700 man-years over the forecast horizon, and more than 8,300 man-years in total, distributed across the construction schedule in roughly the same proportion as investment cost. Domestic and foreign cost is estimated to be divided roughly half and half, with a similar distribution between domestic and foreign labour. The data outline is largely based on plans announced by prospective developers.

This alternative scenario assumes an appreciation of the króna by roughly 5% when the investment plans are announced in mid-2007, and an immediate response from the Central Bank by raising the policy rate by 0.25 percentage points. The downward cycle of the policy rate, which is assumed in the baseline forecast to begin in Q4/2007, is delayed until mid-2008, by which time the policy rate is 2 percentage points higher than in the baseline forecast, at 15%. The alternative scenario also implies that, if the investments are made, it will not be possible to lower the policy rate as quickly as otherwise. Thus the policy rate is 14% at the end of 2008 and 10% at the end of 2009, instead of 6% in the baseline forecast. The investments therefore call for a much tighter monetary policy than assumed in the baseline forecast (see Chart 1).

A timely rise in the policy rate and an appreciation of the króna coinciding with the announcement of the investment plans imply that inflation will be reduced more rapidly than in the baseline forecast, to 1½% early in 2008 (see Chart 2). Subsequently, however, it begins to climb again, as the level of investment is stepped up, and moves up to the inflation target at the end of 2008.

Chart 2
Inflation – alternative scenarios
Forecasting period: Q1/2007 - Q4/2009



Sources: Statistics Iceland, Central Bank of Iceland.

Appendix 1

Financial dollarisation and the effectiveness of monetary policy

The question of the increased use of the euro in financial company accounting and in settlement of transactions in the domestic equity market have been increasingly debated lately. This issue came to the fore after Straumur-Burðarás investment bank was authorised to enter its accounts in euros. A number of other companies appear to be interested in following suit and the idea of listing shares on Iceland Stock Exchange has been discussed, especially after its recent merger into OMX Nordic Exchange.

It is useful to divide an analysis of the impact that increased use of foreign currencies by domestic financial companies has on monetary policy effectiveness into two main questions, which are nonetheless closely related. One is the probable impact on monetary policy effectiveness of dollarising financial companies' *accounting*, and the other the impact of using a foreign currency as the *settlement currency* in financial transactions.

Impact of dollarised accounting

As long as the relative scale of lending and deposits in domestic currency does not decrease substantially, there do not appear to be grounds to expect a significant impact on monetary policy transmission and effectiveness if domestic financial companies account for their assets and liabilities (and hence equity) in a foreign currency. Monetary policy would continue to affect the lending rates of financial companies, and thereby the expenditure decisions of households and businesses borrowing in krónur.

It would probably make little difference even if the relative importance of lending in krónur in these companies' operations diminished as their activities outside Iceland expand. Credit institutions will need to fund most of their króna-denominated lending with deposits, issuance of króna-denominated bonds, Central Bank credit facilities or derivative agreements with other financial companies to hedge against currency risk.[1] Ultimately, a corresponding entry in krónur will be formed on the liabilities side of the credit system balance sheet, which the Central Bank prices directly or indirectly. Direct market financing (i.e. not through the credit system) will be affected in broadly the same way through the yield curve (where long-term interest rates are determined by expectations about the development of short-term rates, which the Central Bank can affect directly or indirectly) while funding is in krónur.

1. Even if financial companies fund part of their domestic credit activities with unhedged foreign borrowing or bond issues, this does not imply that monetary policy will become correspondingly less effective. A temporary appreciation of the króna caused by a policy rate hike will raise the risk on foreign borrowing, which financial companies will need to take into account when fixing their lending rates.

The situation could change if a switch to euro accounting caused a gradual waning of the supply of króna-denominated credit. For example, credit institutions might become reluctant to lend in krónur or might set "abnormally" unfavourable terms. However, it should be borne in mind that as long as households and businesses continue to demand króna-denominated credit, for example to avoid risks connected with exchange rate volatility, credit institutions (or other companies while access to this market remains unrestricted) will still have the opportunity to profit from such activities, so it is difficult to foresee them disappearing entirely, although some decline from the current level cannot be ruled out.[2]

The Central Bank's impact on the price of money (i.e. on interest rates) depends upon its ability to influence money supply. Whatever accounting methods financial companies may use, the Central Bank has the exclusive right to issue krónur. Thus the króna is unlikely to cease to be used as a medium of exchange unless the government takes measures to do so. As long as krónur are still needed for business transactions, for example cash payments for cash-in-advance goods, settlement of contracts, tax payments, etc., monetary policy will still have some effect. Iceland's relatively limited use of notes and coin would not make much difference, because a large share of transactions would still be settled in krónur.[3]

Impact of dollarisation of settlements

On first impression, dollarisation of financial transaction settlements would appear to have a greater impact than dollarisation of accounting. Settlement of financial transactions in a foreign currency could reduce turnover in domestic financial markets, i.e. where króna-denominated securities are traded, and thereby hamper the Central Bank in impacting interest rates across the yield curve. This would also complicate monetary policy conduct, since it relies on the data implied in market prices, which would be handicapped by less efficient markets.

A contraction in domestic lending would reduce domestic financial institutions' need to issue króna-denominated securities. This would have an adverse effect by making domestic money and bond markets less liquid. Iceland already faces a considerable problem in this respect due to limited Treasury bond issuance. There is reason to encourage the Treasury to pay closer attention to its role of providing a sufficient supply of marketable bonds to improve market price formation. With their near-zero creditor risk, Treasury bonds provide an important benchmark for market interest rates.

Another unfortunate consequence of dollarised accounts might be to reduce financial companies' incentives for market making with government securities. Their withdrawal from market making agreements

2. However, demand for króna-denominated credit may also conceivably decline, which could likewise mute the effectiveness of monetary policy, at least through the interest rate channel. Such a development is really outside the scope of this Box, as it represents one manifestation of the increasing globalisation of the Icelandic economy in recent years, which will probably continue irrespective of whether financial companies begin to dollarise their accounts or not.

3. It may be pointed out that households appear to be very reluctant to abandon their domestic currencies, even in hyperinflation countries, see Giovannini and Turtelboom (1994).

could have a highly adverse effect on domestic markets and on the Central Bank's ability to influence domestic interest rates.[4]

The impact that the replacement of the króna as a settlement currency for financial companies would have on payment settlements in Iceland, and on the role played by the Central Bank in that process, is also worth pondering. Financial companies could hardly conduct transactions and settlements with the Central Bank in a currency other than the króna. Questions also arise about the Central Bank's function as a lender of last resort, since it is natural for any conceivable bale-out to be made in the domestic currency.

Conclusion

A decision by financial companies to dollarise their accounts would not seem likely, on its own, to dampen the effectiveness of monetary policy. As long as the króna is used in domestic purchases of goods and services, the need to provide credit in krónur will remain. While such lending continues, monetary policy will have an impact. On the other hand, if a switchover reduced the use of the króna in domestic lending, especially coinciding with dollarisation of financial companies' transaction settlements, the Central Bank would probably have a reduced influence on domestic interest rates. Monetary policy would not be completely impotent provided that the króna remained the dominant currency in domestic transactions. But adopting a foreign currency for goods and services transactions would substantially erode the effectiveness of monetary policy.[5] The probability of this happening must nonetheless be considered minimal. It is only likely to be catalysed by serious economic policy mistakes, leading to hyperinflation.

Finally, it is worth pondering whether such a change could alter the relative importance of different monetary policy transmission channels. An increased share of household borrowing in foreign currencies is likely to increase the importance of the exchange rate channel for monetary policy transmission at the expense of the interest rate channel.[6] This could complicate monetary policy conduct due to the unforeseeable nature of exchange rate volatility, i.e. uncertainty about the pass-through would increase.

Dollarisation of domestic equity prices would also affect monetary policy transmission through the asset price channel. An appreciation of the króna after domestic monetary policy is tightened erodes the purchasing power of assets denominated in a foreign currency relative to domestic goods and services, other things being equal, even though the price of the equity remains unchanged in the currency in which it

4. Stanley Fischer (2006) has pointed out that although the empirical answer to whether dollarisation helps create financial depth seems to be uncertain, when one takes into account that capital controls are never totally watertight, the answer must be that dollarisation helps preserve a larger domestic financial system than would otherwise exist; otherwise much of the financial system would move offshore.

5. International research indicates that monetary policy would become less effective if households increasingly used the euro for their goods and services transactions. See e.g. Castillo, Montoro and Tuesta (2006). The Peruvian experience, on the other hand, does not indicate that the monetary policy impact would disappear entirely – the Central Bank of Peru has managed to keep inflation on target even though 80% of the economy is dollarised.

6. This is one finding of international studies. See, e.g. Castillo, Montoro and Tuesta (2006).

is listed. Thus the wealth effect of equity assets would become more sensitive to exchange rate movements.

Conceivably, dollarisation of financial companies' accounts could have some positive effects on monetary policy transmission. It has been argued that an appreciation of the króna following a policy rate hike – which has a positive effect on financial companies' capital ratios and thereby boosts their lending capacity – works counter to the Central Bank's efforts to tighten the monetary stance. If the balance sheet were denominated in another currency, the impact could be reversed, strengthening monetary policy transmission through the exchange rate channel.

As a rule, increased dollarisation could have an undesirable effect on financial stability if it entails a greater exchange rate risk for domestic economic agents with expenditures in krónur.[7] However, this can by no means to be taken for granted – nor is exchange rate risk a new phenomenon.

Increased use of foreign currencies in the Icelandic economy may be regarded as a normal consequence of globalisation and economic and financial deregulation. But it is no less the result of the overheating and instability of recent years, as reflected in high inflation, high interest rates and volatility of the króna.

Restrictions and controls aimed at hindering this development are unlikely to be successful. The economic costs of barriers to capital movements are probably greater than the benefits. The most prudent contribution to the króna's role as a useful currency in Icelandic financial markets is to conduct an economic policy that reduces the incentive to use other currencies. Ensuring economic stability is the best means to achieve this aim. If the government manages to ensure that economic activity is aligned with potential output, prices will be more stable and the króna's role as a medium of exchange, an accounting unit and a vehicle currency for contracts will improve.

Sources

Castillo, P., C. Montoro and V. Tuesta (2006). *An estimated stochastic general equilibrium model with partial dollarization: A Bayesian approach*, Central Reserve Bank of Peru.

Fischer, S. (2006). *Dollarization*, speech presented at the 75th anniversary of the Central Bank of the Republic of Turkey, December 13-15, 2006.

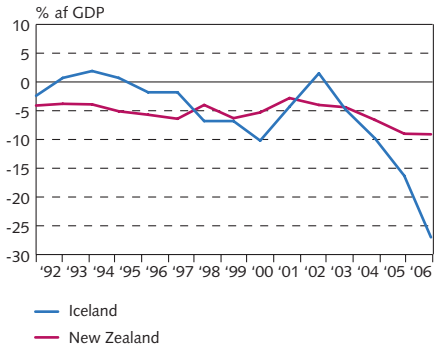
Giovannini, A. and B. Turtelboom (1994). Currency substitution, in *The Handbook of International Macroeconomics*, ed. F. Van der Ploeg, Blackwell.

7. In this context it may be pointed out that even if credit institutions hedge their own exchange rate risks, a substantial exchange rate risk remains among borrowers who do not have access to natural hedges, as clearly borne out by the Asian financial crisis in the 1990s.

Appendix 2

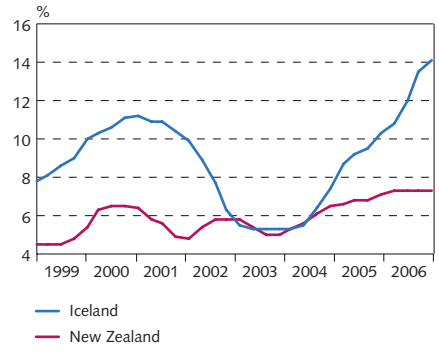
Similar economic situations in Iceland and New Zealand

Chart 1
Current account deficit 1992-2006



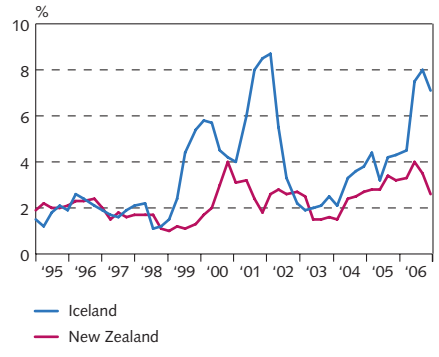
Sources: Reserve Bank of New Zealand, Central Bank of Iceland.

Chart 2
Policy rate 1999-2006
Quarterly averages



Sources: Reserve Bank of New Zealand, Central Bank of Iceland.

Chart 3
Inflation 1995-2006



Sources: Reserve Bank of New Zealand, Central Bank of Iceland.

Iceland and New Zealand are in many respects in broadly the same economic position. After a period with robust GDP growth, both economies are characterised by macroeconomic imbalances reflected in, among other things, a wide current account deficit, tight labour market and buoyant domestic demand growth. Surging private consumption in both countries has been mainly driven by growing household debt secured against greater housing wealth, after structural reforms in the mortgage market and increased demand sent house prices soaring. Both countries' central banks have countered mounting inflationary pressures by tightening the monetary stance. The interest rate differential with abroad has widened rapidly and attracted foreign investors. As a result, both countries are popular targets for carry traders and have witnessed large issuance of offshore bonds in their own currencies. International institutions have expressed concern about lax fiscal policy in both countries despite rapid reductions in public sector debt, and have called for a better fiscal and monetary policy mix. Discussions of monetary policy effectiveness have also been lively. Ideas for new measures in monetary policy conduct have been raised in both countries as well.

Greater imbalances in Iceland

However, the economic position in both countries is not identical. Imbalances are noticeably more pronounced in Iceland than in New Zealand. Iceland's current account deficit in 2006 was more than twice the size as a proportion of GDP, as were the inflation rate and policy interest rate. The composition of their current account deficit also differs. The deficit on the income account weighs heaviest in New Zealand, while in Iceland the largest deficit is on the merchandise account.[1] Also, inflation targeting appears to provide a better anchor for inflation expectations in New Zealand, where the inflation rate has been both lower and more stable over the past decade. New Zealand became the first country to move onto a formal inflation target in 1990.

Slower adjustment than forecast by central banks

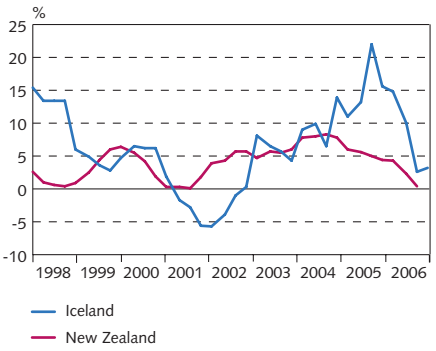
The central banks in both countries face similar challenges. Their focus is on unwinding the macroeconomic imbalances that generate inflationary pressures. The Reserve Bank of New Zealand (RBNZ) raised its official cash rate in March 2007, the first hike since the end of 2005. The rate of output growth in 2006 came as a surprise to the RBNZ, which had forecast a faster adjustment of domestic demand. One explanation for the slower adjustment is that house price inflation, which

1. The deficit on the income account has been growing rapidly in Iceland and could assume a greater share of the current account deficit over the next few years, see Box VII-1 on p. 45.

was on the decrease in the first half of 2006, has declined more slowly than forecast after an upswing in the housing market. The fiscal stance has also been eased.

Similarly, demand has been adjusting more slowly in Iceland than the Central Bank had forecast. Investment has been underforecast and slower house price disinflation and a lax fiscal stance have also played a part, as in New Zealand.

Chart 4
National expenditure growth 1998-2006



Sources: Statistics Iceland, Reserve Bank of New Zealand.

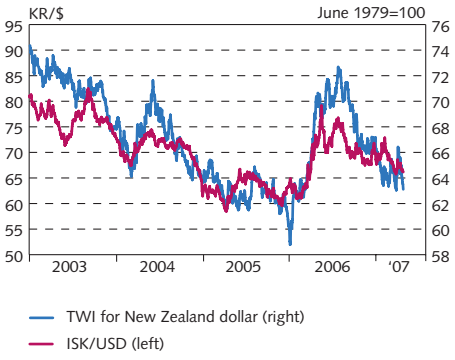
Correlation between the króna and NZ$ dollar exchange rates

The New Zealand dollar and Icelandic króna have been highly sensitive to shifts in international financial conditions, and at times their exchange rate movements have been quite closely in step (see Chart 5). The correlation indicates the impact of carry trades involving assets denominated in the respective currencies. Large issues of bonds in these currencies by non-residents will mature in 2007 and could conceivably affect the countries' exchange rates.

Test of the monetary authorities' ability to promote stability

RBNZ staff, in cooperation with outside experts, have studied whether more balanced external trade and exchange rate stability can be realised without compromising the bank's main function of contributing towards inflation on target. Although not conclusive, the findings do not invite fundamental changes to the RBNZ's monetary policy objectives or framework.[2] An increased emphasis on ensuring exchange rate stability could amplify volatility of inflation and output growth. Just as in Iceland, however, there is scope for strengthening the monetary policy transmission mechanism by increasing Treasury bond issuance and other measures.

Chart 5
Exchange rate of the króna against USD and TWI for New Zealand dollar
Daily data, January 1, 2003 - March 27, 2007



Sources: Reserve Bank of New Zealand, Central Bank of Iceland.

Call to step up Treasury bond issuance

New Zealand and Iceland are the most heavily indebted countries within the OECD, but only a small share of their external debt is accounted for by central government. Thus the Treasury borrowing requirement in both countries has shrunk rapidly, with a corresponding decrease in bond issuance. The governor of the RBNZ has underlined that the Treasury should nonetheless continue to issue bonds in order to bolster price formation in financial markets and facilitate the monetary pass-through. The Central Bank of Iceland has likewise emphasised the importance of this role for the Icelandic Treasury.

2. See New Zealand Treasury and Reserve Bank of New Zealand (2006). *Testing stabilisation policy limits in a small open economy: proceedings from a macroeconomic policy forum.*

Appendix 3

Baseline macroeconomic and inflation forecasts 2007/1

Table 1 Macroeconomic forecast

		Volume change on previous year (%) unless otherwise stated[1]			
	B.kr.		*Forecast*		
GDP and its main components[1]	*2006*	*2006*	*2007*	*2008*	*2009*
Private consumption	686.5	4.6 (6.0)	0.2 (0.5)	-4.1 (-3.0)	-5.7 (.)
Public consumption	280.7	2.9 (2.2)	3.0 (3.0)	3.0 (2.7)	3.0 (.)
Gross fixed capital formation	365.6	13.0 (9.1)	-22.4 (-28.3)	-22.7 (-4.7)	-5.8 (.)
Business sector investment	255.6	13.8 (7.8)	-30.8 (-38.9)	-38.9 (-11.1)	-10.8 (.)
Residential construction	74.8	17.2 (13.8)	-4.6 (-4.9)	-8.9 (-7.4)	-8.7 (.)
Public works and buildings	35.2	0.8 (3.1)	-2.1 (4.2)	39.7 (30.0)	9.6 (.)
National expenditure	1,346.1	7.4 (6.2)	-5.6 (-6.6)	-6.9 (-2.3)	-3.8 (.)
Exports of goods and services	372.2	-5.6 (-2.9)	9.6 (13.5)	16.7 (14.2)	4.5 (.)
Imports of goods and services	576.5	8.8 (4.6)	-10.4 (-9.9)	-5.1 (0.6)	-2.3 (.)
Gross domestic product	1,141.7	2.6 (4.0)	0.8 (1.4)	0.7 (2.8)	-1.0 (.)
Other key aggregates					
Current account balance (% of GDP)		-26.7 (-20.8)	-15.7 (-11.7)	-11.4 (-8.0)	-11.3 (.)
Output gap (% of GDP)		3.2 (3.3)	1.0 (1.8)	0.3 (3.1)	-2.0 (.)
Unit labour cost (change between annual averages in %)		8.9 (8.2)	6.8 (7.7)	3.9 (4.0)	3.8 (.)
Real earnings (change between annual averages in %)		6.5 (2.8)	4.7 (3.8)	-2.8 (-0.7)	-3.1 (.)
Unemployment (% of labour force)		1.3 (1.4)	2.0 (2.0)	3.5 (3.4)	4.8 (.)
Policy rate and exchange rate					
Central Bank policy interest rate (%)		12.6 (12.6)	14.2 (11.6)	12.0 (8.2)	7.0 (.)
Foreign exchange index (Dec. 31. 1991 = 100)		121.4 (122.6)	121.0 (126.7)	120.8 (127.9)	125.4 (.)

1. Figures in parentheses show forecast in *Monetary Bulletin* 2006/3, which assumed a policy rate path based on market agents' and financial analysts' expectations.

Table 2 Inflation forecast

	Change on same period of previous year (%)		*Annualised quarterly change (%)*
	Forecast MB 2007/1	*Forecast 2006/3*	*Forecast MB 2007/1*
Quarter	*Measured value*		
2006:1	4.5	4.5	4.5
2006:2	7.5	7.5	14.3
2006:3	8.0	8.0	7.5
2006:4	7.1	7.6	2.3
	Forecast value		
2007:1	6.4	7.9	1.9
2007:2	3.5	4.1	2.4
2007:3	2.0	3.4	1.4
2007:4	1.7	3.4	1.3
2008:1	2.0	2.8	2.8
2008:2	2.4	4.1	3.9
2008:3	2.3	4.3	1.3
2008:4	2.4	4.4	1.6
2009:1	2.6	...	3.5
2009:2	2.7	...	4.4
2009:3	2.6	...	0.9
2009:4	2.5	...	1.3

Change year-on-year	*Forecast MB 2007/1*	*Forecast MB 2006/3*
2006	6.8	6.9
2007	3.4	4.6
2008	2.3	3.9
2009	2.6	...

1. The forecast in *Monetary Bulletin* 2006/3 assumes a policy rate path based on market agents' and financial analysts' expectations.

Financial markets and Central Bank measures[1]

Lively trading in the markets

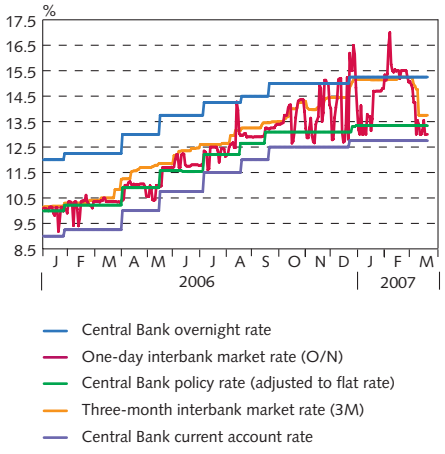
Domestic markets have witnessed lively activity since the last Monetary Bulletin *was published in November 2006. The ICEX-15 index has risen by 17% so far in 2007. Most listed companies reported strong profits last year, and some made record profits, led by the three commercial banks with combined profits of 167 b.kr. Illiquidity was felt in the money market, which now appears to have normalised after an increase in the types of bonds eligible as collateral for Central Bank facilities. Glacier bond issuance continued and, for the first time, an issue was managed by a domestic financial institution. A change in the rules on transactions with the Central Bank may have been instrumental in that development. Yields on indexed and nominal bonds have been volatile. A cut in VAT at the beginning of March drove up yields on indexed bonds sharply and they are still higher than in November. The króna depreciated somewhat until the end of 2006 but has since climbed back to broadly the same rate as when* Monetary Bulletin *was published in November.*

Even wider interest rate differential with abroad

The Central Bank has raised its policy rate by 0.25 percentage points since the last *Monetary Bulletin* was published in November 2006. The Bank of England and the Bank of Japan have raised their policy rates by the same amount and the European Central Bank by 0.5 percentage points, while the US federal funds rate has been unchanged since last summer. The interest rate differential with abroad narrowed slightly, from just below 10 percentage points at the end of October to the current 9.2 percentage points as measured by three-month interbank rates.[2] Conditions for carry trading have remained favourable but have deteriorated marginally in terms of the interest rate differential alone, mainly because of lower rates in domestic money markets.

Chart 1
Interest rates in the interbank market and Central Bank policy rate

Daily data January 3, 2006 - March 23, 2006



Source: Central Bank of Iceland.

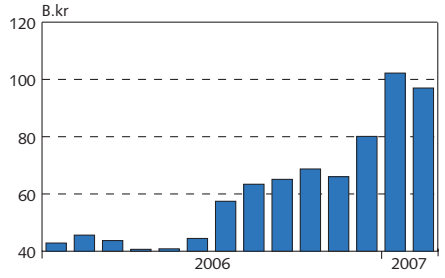
Liquidity squeeze in the money market

Repeated illiquidity was noted in the domestic money market since November. Interest rates there often exceeded the Central Bank's overnight rate, impeding efficient market functioning. Several interrelated factors were at work, but the most decisive was the Treasury's substantial deposits in the Central Bank. The balance on the Treasury's current account has grown steadily over the recent term and now stands at 90 b.kr., not including a time deposit of 32 b.kr. representing the proceeds from the privatisation of Iceland Telecom in 2005.

Limited Treasury note issues and dwindling issues of Housing Financing Fund (HFF) bonds in the wake of structural changes in the mortgage market have reduced domestic financial institutions' holdings of bonds that are eligible as collateral for transactions with the Central Bank. In response, the Central Bank decided to accept as collateral króna-denominated bonds that are registered in foreign settlement systems or issued by non-residents (glacier bonds). It was decided to interpret the rules on transactions with the Central Bank so as to enable a foreign issue larger than 20 b.kr. to be eligible to have

Chart 2
Treasury current account in the Central Bank

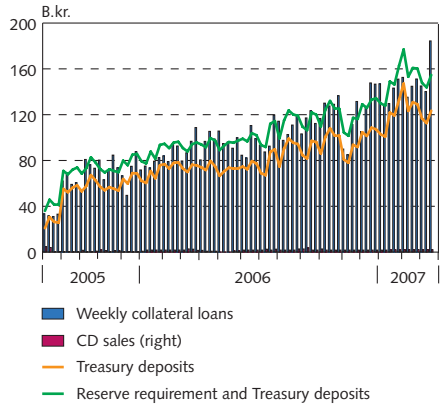
Monthly data, January 2006 - February 2007



Source: Central Bank of Iceland.

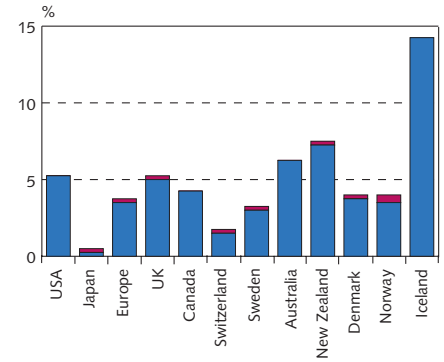
1. This article uses data available on March 23, 2007.
2. Trade-weighted foreign interest rates.

Chart 3
Weekly collateral loans, CD sales, Treasury deposits and reserve requirement
Weekly data August 9, 2005 - March 20, 2007



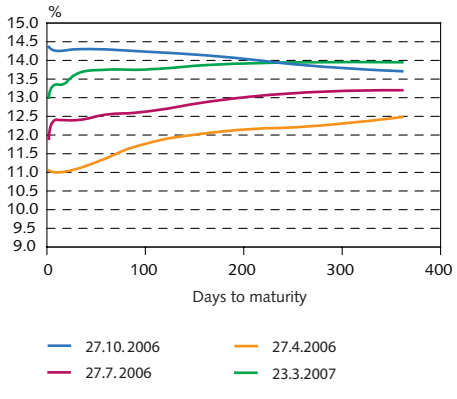
Source: Central Bank of Iceland.

Chart 4
Increases in selected central banks' policy interest rates since the beginning of 2006[1]



1. The red part of the column shows the increase from the beginning of the year. The policy rate varies between countries and can refer to either lending or deposit rates and show either yield or nominal rate.
Source: Central Bank of Iceland.

Chart 5
Yield curve on money market



Source: Central Bank of Iceland.

a market maker, provided that indicative buying and selling bids are posted on systems such as Bloomberg. The interbank money market normalised following this measure. In recent months the banks have increased their borrowing from the Central Bank, at one point reaching a high of 184 b.kr.

Increased position-taking in the króna

Issuance of glacier bonds has continued apace, with foreign issues since November 2006 totalling some 119.5 b.kr. A single 40 b.kr. issue by the Dutch bank Rabobank accounts for more than a third of that total. Nearly 32 b.kr. matured from then until the end of March 2007, boosting the net glacier bond position by 87.5 b.kr. over that period. For the first time since issuance of glacier bonds began, a domestic bank managed such an issue when Landsbanki placed and underwrote 25 b.kr. for the Austrian Treasury. A large portion is likely to remain held by Landsbanki or sold on to residents. If so, the issue marks something of a turning point, because virtually all glacier bonds issued so far are owned by non-residents. Icelandic banks have more incentive to acquire glacier bonds after they were made eligible as collateral for Central Bank facilities.

Since the end of October the commercial banks' foreign forward contract exposures have continued to grow. By the end of February they had risen by 147 b.kr. to 612 b.kr., so it is clear that foreign investors are adding to their already large long positions in the króna. Added to this are foreign investors' Treasury bond holdings and the current account deficit, which reached a record 305 b.kr. in 2006.

Such an exposure is very large relative to the size of the Icelandic economy and market. There is a growing risk that investor sentiment towards the króna could cause substantial exchange rate volatility. Sudden investor flight from the króna could be sparked by events utterly unrelated to conditions in the Icelandic economy or among Icelandic corporations. This could take the form of instability in the equities market, which would first affect exchange rates and then prompt investors to close their positions on a large scale. There were hints of such a phenomenon in late February and early March, when share prices plummeted in all markets, low-interest currencies such as the yen appreciated and high-interest currencies weakened.

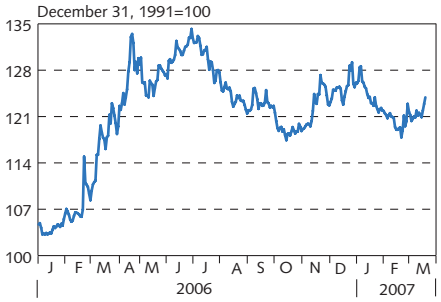
Responses in the króna market are determined by the diversity of the investor group holding króna-denominated instruments in their portfolios. An informal survey indicates that 30-40% of investors in the króna are money market funds and hedge funds that, in general, invest for short periods of time and are highly mobile. The remainder are investment funds that take a long-term perspective and are less quick to open and close their positions. Impulsive investors and herd mentality in the market could pose the risk of volatility in the króna.

Lively FX market

The FX market has been lively since the end of October, when the exchange rate index stood at 118.7 after strengthening steadily for several months. The index reached a high of 130.3 on December 22, the day that Standard & Poor's announced its downgrade of the Republic

of Iceland's issuer credit rating. The króna rallied by almost 3.5% before the end of the year but slipped again when debate about Icelandic companies switching their accounting currency to the euro from the króna came to the fore. By the end of February, however, the króna had surpassed its strength at the end of October. Contagion from late February's sharp drop in share prices in China seems to have catalysed the depreciation of the króna in February-March. This appears to have been a temporary adjustment, however, rather than a lasting downturn in sentiment.

Chart 6
Exchange rate index of the króna
Daily data January 3, 2006 - March 23, 2007



Source: Central Bank of Iceland.

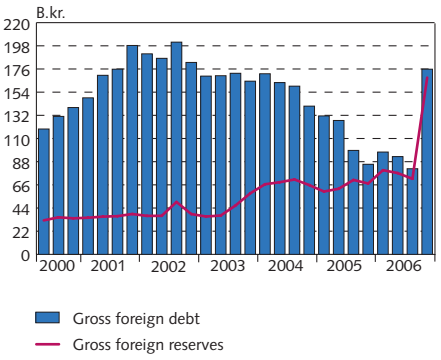
Foreign reserves bolstered

In November 2006 the Icelandic government launched a measure aimed at boosting the Central Bank's foreign reserves. It was financed with a €1 billion five-year Eurobond issue. The entire amount of the borrowed funds was deposited in the Central Bank and invested in a euro portfolio with a similar maturity, in keeping with the rules on foreign reserve management.

Domestic financial markets have changed profoundly in the past several years. Iceland's financial institutions have expanded by leaps and bounds and foreign investors are much more active in króna trading. In view of these factors and the ratings companies' concerns about tight foreign liquidity, it was decided to respond by bolstering the foreign reserves. The reserves expanded by 90 b.kr. as a result of this measure, from 70 b.kr. to 160 b.kr.

In recent years, the Central Bank's regular currency purchases in the market have been used almost exclusively to service the Treasury's foreign debt. The Central Bank intends to continue to buy currency on same scale, at 6 million US dollars a week. It is likely that the Central Bank's reserves will match all of the Treasury's foreign liabilities just after mid-2007.

Chart 7
Gross reserves and gross central government foreign debt
Quarterly data, Q2/2000 - 2006



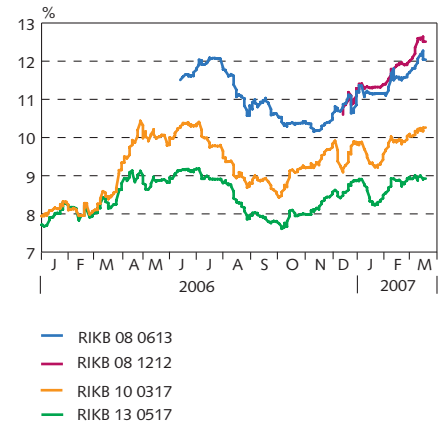
Source: Central Bank of Iceland.

Bond market

The domestic bond market is challenged by its small size. Treasury issues are scant and are not required for funding purposes in the current strong fiscal position. Outstanding Treasury note issues are small and their price formation is inefficient. Yields on nominal instruments therefore show sharp day-to-day volatility relative to comparable issues in other countries. The lifetime of the longest outstanding bond is currently only six years.

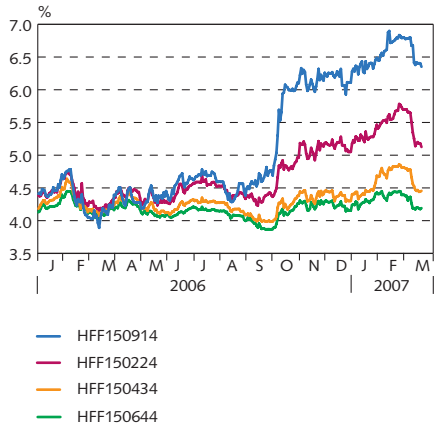
Treasury instruments perform a major function in all economies. They provide a benchmark for risk-free investments to which a premium is added to evaluate other investments. Given the strong fiscal position, issuance is unlikely to be stepped up in the near future. This is regrettable, because an adequate supply of Treasury notes deepens the nominal bond market and is an important precondition for efficient monetary policy transmission across the yield curve. Norway and Australia are two examples of countries in a strong fiscal position where Treasury issues have nonetheless been continued with the aim of contributing to a reliable yield curve and normal market interest rate formation. Other things being equal, a market presence also ensures smoother access to credit should the need arise.

Chart 8
Treasury note yields
Daily data January 3, 2006 - March 23, 2007



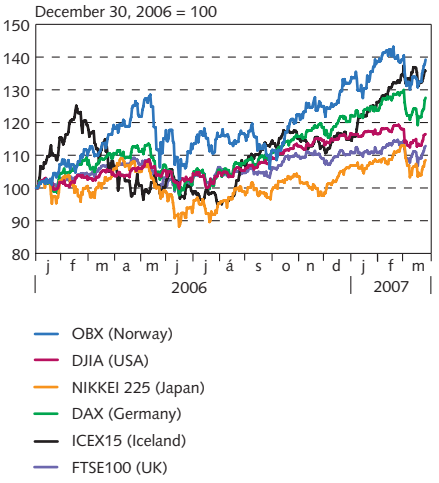
Source: Central Bank of Iceland.

Chart 9
HFF bond real yields
Daily data January 3, 2006 - March 22, 2007



Source: Central Bank of Iceland.

Chart 10
Development of selected share indices
Daily data December 30, 2005 - March 23, 2007



Source: Reuters.

Muted demand for two-year Treasury notes in the National Debt Management Agency's February auction can presumably be attributed to the tax cuts. The small size of T-note issues may also dampen investor demand. Demand for króna-denominated bonds is ample, judging from glacier bond issues in recent months. The Treasury retired T-notes that matured in early February in the amount 20 b.kr., reducing their supply in the market even further.

Bond supply is likely to be boosted by the Austrian Treasury's glacier bond issue, which should drive up yields on nominal Treasury notes, as well as enabling smoother monetary policy transmission over the next months. Since their maturity is only one year, however, further issuance is clearly required to support monetary policy transmission across the entire yield curve.

Bond yields have risen substantially since the government's announcement of a cut in value-added tax (VAT) on food and other goods. Real yields rose somewhat as soon as the government made the announcement, and they continued to climb until the beginning of March, when the changes took effect. By that time, HFF bond yields had risen by 0.25-0.85 percentage points, most sharply at the shortest maturity. HFF bond yields fell slightly afterwards.

Equity market

Equity prices turned downward from October until the end of November, but since then they have risen virtually unchecked. The ICEX-15 index stood at 6,400 at the beginning of the year. In January it broke the 7,000 barrier and set a new record. Since then the index has risen even further and is now at 7,500, a 17% increase since the beginning of the year.

The majority of listed companies reported record profits last year, led by the three commercial banks, which returned combined profits of 167 b.kr. Together, the three banks constitute 59.1% of the ICEX-15 index.

Thorvardur Tjörvi Ólafsson[1]

Publication of its own policy rate path boosts the effectiveness of central bank monetary policy

"For not only do expectations about policy matter, but, at least under current conditions, very little else matters."

Michael Woodford (2003, 15)

1. Introduction

Major changes have taken place in the way that central banks organise and present their monetary policy decisions in recent years. Most central banks now emphasise transparency in presenting their decisions and argue a detailed case for their viewpoints in their publications and speeches. This is a far cry from the great secrecy that once surrounded central bank activities. For a long time, the prevailing view within monetary economics was that central bank measures were more effective if they managed to take the public and markets by surprise. Much has changed since then. Nonetheless, the notion of the need to surprise the market has persisted in public debate, particularly in Iceland.

The current prevalent view in monetary economics is that monetary policy is more effective if it is predictable (see Woodford, 2003) and that the most important function of monetary policy is to guide and influence household and market expectations about the future development of interest rates, inflation and economic activity. Two main assumptions underlie this perspective: First, market agents' decisions are forward-looking. Second, there is a considerable lag in the pass-through of central bank policy action. When monetary policy is transmitted across the yield curve, each separate interest rate decision is less important than expectations of future policy rate developments. Expectations of the policy rate path also directly impact household and business consumption and investment decisions. The bulk of household borrowing for consumption and investment, and a major part of operational and investment credit for businesses, have a maturity of many years. In order to exert a significant effect on consumption and investment, monetary policy should preferably impact long-term interest rates. Interest rates at the long end of the yield curve, market pricing and market agents' decisions are primarily driven by their expectations of how the policy rate will develop rather than by the headline figure at any time, although the latter will constrict their expectations in the short run. The success of monetary policy will depend on these factors to a considerable extent. Broad consensus has developed in monetary economics in recent years that the way to make transmission of monetary policy more efficient is through clear policy

1. The author is an economist at the Central Bank of Iceland Economics Department. He would like to thank Arnór Sighvatsson and Thórarinn G. Pétursson for their constructive comments. The author alone is responsible for any errors or omissions. The opinions expressed in this article are those of the author and do not necessarily represent the views of the Central Bank of Iceland.

objectives and systematic, credible and transparent practice. This will foster a clearer understanding of central bank decisions among market agents and confidence that they will honour their commitments. Once such assurance is established, it can even lead markets to respond to new developments before the central banks do so themselves.

One priority for inflation-targeting central banks is to explain how their monetary actions are compatible with the inflation target. They do so by publishing inflation reports, arranging scheduled interest rate decision days and issuing policy statements every time an interest rate decision is made. However, central banks differ in the degree of transparency that they practise, for example whether or not they give access to their forecasting models or publish the minutes of monetary policy meetings. Inflation reports play a key role. They offer central banks a platform for demonstrating that their monetary policy measures are systematic, credible and transparent, and for affirming their commitment to their objectives. Monetary policy is made more predictable as a result. Macroeconomic and inflation forecasts perform an important function in inflation reports by providing terms of reference to explain how monetary policy is applied in practice (see Pétursson, 2004).

By enabling the general public and others to assess whether monetary policy practice is in line with a central bank's announcements and probable responses to unfolding economic developments, inflation reports can influence expectations about the path that the policy rate, and thereby the inflation rate, will follow. Thus the more transparent profile that inflation-targeting central banks adopt when taking monetary policy action, compared to other central banks, is no coincidence. However, central banks have imposed limits on their transparency. They have been reluctant to provide unequivocal information about their own expectations of policy rate developments, even though they are aware that these may be even more important than the policy rate decision itself at any given time. One manifestation of this reluctance has been the frequent assumption in central bank forecasts that the policy rate will remain unchanged or track forward rates or survey findings. Such an approach has been criticised on the grounds that transparency about its own expectations is a precondition for successful monetary policy by any central bank.

In recent times it has been widely debated whether central banks ought to enhance the effectiveness of their monetary policy by making it even more transparent, e.g. by publishing more detailed information on their own expectations of policy rate paths. Doing so is increasingly believed to enhance the impact of central bank policy actions on market expectations and the effectiveness of monetary policy (see e.g. Woodford, 2003, Svensson, 2005 and Rudebusch and Williams, 2006). A number of central banks have already taken steps in this direction.

Signs of future policy rate developments in the form of recurrent phrases in press releases and minutes has been a popular practice on both sides of the Atlantic. Woodford (2005), Poole (2005) and Rudebusch and Williams (2006) discuss the Federal Reserve's experience of such signalling, focusing on the period after 2003. That year, the

Federal Reserve, identifying a strong risk of deflation, stated that "In these circumstances, the Committee believes that policy accommodation can be maintained for a considerable period", then prepared the market for pending policy rate hikes ("the Committee believes that it can be patient in removing its policy accommodation") until it began the cycle of interest rate rises and stated "that policy accommodation can be removed at a pace that is likely to be measured".

Support has been growing recently for central banks to go even further by announcing their own forecasts for policy rate developments. The precedents set by the Reserve Bank of New Zealand, Norway's Norges Bank and, most recently, Sweden's Riksbank have provided the most impetus, backed up by new literature and research arguing the benefits of such communication from central banks. Mishkin, once a leading critic of their usefulness, has now become convinced of the value for central banks to announce their policy rate path forecasts (see Giavazzi and Mishkin, 2006).

2. Options for underlying policy rate paths in central bank forecasts

Broadly speaking, central banks that opt to publish the underlying policy rate paths for their forecasts have three choices. They can assume an unchanged policy rate across the forecast horizon, base the forecast on market expectations about policy rate developments, or present their own policy rate forecasts. Conversely, central banks can also choose not to announce the underlying path. Each approach has both pros and cons.

2.1 Unchanged policy rate

At first after inflation targeting became widespread and a higher profile was given to inflation forecasting, central bank forecasts were generally based on the assumption of an unchanged policy rate across the forecast horizon. The forecast therefore indicated the effect of not changing the policy rate on the economic outlook. Inflation above or below target (in the second half of the horizon) implied the respective need to raise or lower the policy rate (see e.g. Vickers, 1998). Hence a forecast assuming an unchanged policy rate can provide an indication of probable monetary policy action. However, this approach entailed a number of limitations and challenges. These were discussed in *Monetary Bulletin* 2006/2, when the Central Bank of Iceland decided to drop this assumption for its baseline forecast: "A forecast conditioned on a constant policy rate does not give a clear signal about the future policy rate path, and therefore has only a limited effect on market expectations about that path. Neither is such a forecast internally consistent, because it either uncouples or dampens an important transmission channel of monetary policy, namely the monetary policy response to economic developments and its transmission via expectations about how policy rate developments will influence long-term interest rates. Various problems in forecasting can therefore result. The forecast may become unstable, especially over longer horizons. Interpreting the forecast can therefore become problematic, limiting its usefulness." (*Monetary Bulletin* 2006/2, pp. 52-3).

This problem becomes more pronounced, the wider that inflation diverges from target. By publishing a forecast based on an unchanged policy rate that shows inflation far beyond the target, central banks forgo an ideal opportunity to indicate how much they consider that the policy rate needs to be raised to attain it. If a bank's commitment is called into question, such a forecast can actually feed inflation expectations and dampen the effectiveness of monetary policy.

2.2 Market expectations

By basing their forecasts on market expectations about the policy rate path that can be inferred from implied forward interest rates or survey findings, central banks can to some extent avoid the disadvantages of the fixed policy rate assumption. The Bank of England and European Central Bank base their forecasts on this assumption. In most cases such forecasts are more realistic and consistent than those assuming an unchanged policy rate, since they are based on expectations of policy rates that the central bank has itself partly shaped. This approach also gives central banks the chance to comment on how realistic they consider market expectations about the future policy rate path, and thereby influence them even further. However, a number of drawbacks are involved.

First, this approach may imply that market analysts and agents have excessive influence on central bank assessments of the economic situation. Perceptions of a central bank chasing market expectations could erode confidence in monetary policy. Svensson (2006) emphasises that central banks should lead the market, not be governed by it.

Second, it may be particularly awkward for central banks with limited credibility to chase market expectations in their forecasts. In such cases, a forecast by market agents is likely to be significantly at odds with the central bank's view, and the bank's forecast likewise out of synch with the inflation target. Central banks with limited credibility face the same problem as if they had assumed an unchanged policy rate, and are often forced to present forecasts for inflation that are far wide of target for the whole horizon. This may further erode the credibility of monetary policy and does not enhance the transparency or predictability of monetary policy actions. Volatile forecasting due to changes in market expectations complicates central banks in interpreting the results and impairs the effectiveness of this important channel for central bank communication with the public (see Faust and Leeper, 2005). The Central Bank of Iceland's recent experience offers a clear example, as discussed later.

Third, implied forward rates are not always a useful gauge of market expectations about the policy rate (see Goodhart, 2005). Problems in assessing risk premia and various kinds of market failures may distort the picture of market expectations that implied forward rates signal to monetary policy. This risk increases, the more shallow and less developed that financial markets are. In some cases, forecasts based on this assumption may therefore exacerbate a central bank's existing credibility problem.

Fourth, this approach may cause similar problems in models to when an unchanged policy rate is assumed. In models with forward-

looking expectations, the assumption that the policy rate will track market expectations may lead to indeterminacy, and inflation dynamics can turn highly unstable in models with backward-looking expectations (see Woodford, 2003, 2005).

Finally, a forecast based on market expectations is clearly not the best forecast that central banks can produce, because they have better information about future policy rate developments than the markets, with which they can enhance their forecasts.

2.3 Own policy rate forecasts

The third option for the policy rate path is for the central bank to forecast this itself. A number of benefits may accompany such a choice.

First, the central bank comes closer to producing an optimal forecast, because it uses all the information at its disposal, including its own ideas about policy rate developments.

Second, this approach implies that the monetary authorities communicate more information to market agents about probable policy rate developments, giving them a clearer insight into the central bank's strategy. Monetary policy therefore becomes more predictable and has a more effective impact on expectations and pricing. At the same time, monetary policy will have a stronger impact on the longer end of the yield curve and on decisions by market agents. This could enable monetary authorities to achieve their objectives in smaller steps than otherwise.

Third, central bank forecasts become easier to evaluate and use as justification for monetary policy actions. By basing their forecasts on their own policy rate paths, central banks regain control over their own forecasting. Changes in the underlying policy rate path between forecasts reflect that the central bank's own assessment has altered rather than implied forward rates, which could be changed by other factors than policy rate expectations. This ought to create a more logical context for policy rate assumptions to develop than if market expectations were used, among other things because expectations about monetary policy could be misguided. However, volatility can still not be ruled out, since the central bank's own assessment of the need to tighten the monetary stance sometimes changes much faster than the market's perception of probable policy rate developments.

Fourth, one main advantage for a central bank that uses its own policy rate forecast is to ensure that forecast inflation will be compatible with the target, because the assumed policy rate path represents the assessment by the board of governors or monetary policy committee of the optimal interest rate development for attaining the target. Forecasts showing a sharp divergence between inflation and the target would therefore be a thing of the past. The forecast ought to have a stronger impact on household expectations about medium-term inflation and interest rate developments, which are an important channel for monetary policy transmission, and bring them into better alignment with the target. Finally, Rudebusch and Williams (2006) have demonstrated that such communication is likely not only to support the monetary authorities' anti-inflationary efforts, but also dampen output volatility.

Various conceivable disadvantages have been pointed out if central banks disclose their own policy rate forecasts. Goodhart (2001, 2005) and others maintain that doing so overcomplicates the monetary authorities' decision-making process. Monetary policy committee members have only a vague idea of the future development of the policy rate and even though they might find a suitable path, it is difficult for so many members to agree on a single one.

Mishkin (2004) also points out that disclosing the policy rate forecast may impede a central bank's communication with households, which are likely to interpret the forecast as a commitment by the bank to adhere to it. While economists are aware that the path is conditional, i.e. contingent on a given economic scenario presented in the forecast, this is less obvious to households and even market agents. Divergence from an announced path might then be interpreted as flip-flopping on the part of the central bank and could tarnish its credibility.

Third, publication of a policy rate forecast might imply an unwarranted degree of accuracy, and it is inadvisable to place so much faith in the results of a given forecast (see Edey and Stone, 2004). Results are fraught with uncertainties connected with both the data used and the structure of the economy. Disclosure of a policy rate forecast would imply that central banks have more knowledge than is actually the case. Kahn (2007) points out that the economic outlook is sometimes simply so complicated, uncertain and volatile that the possibility of reaching conclusions about the policy rate several years ahead is dubious. Experience shows that productivity and the output gap are particularly problematic to forecast. Central bank inflation forecasts have therefore often shot wide of the mark and the monetary stance has been wrong (see e.g. Orphanides, 2003).

Table 1. Policy rate assumptions in forecasts of selected central banks

Australia	Not announced
Brazil	Unchanged
Canada	Not announced
Chile	Unchanged
Columbia	Own forecast
Euro area	Market expectations
Israel	Not announced
Japan	Market expectations
Mexico	Not announced
New Zealand	Own forecast
Norway	Own forecast
Peru	Unchanged
Philippines	Unchanged
Poland	Unchanged
South Africa	Unchanged
South Korea	Unchanged
Sweden	Own forecast
Switzerland	Unchanged
Thailand	Unchanged
UK	Market expectations
US	Not announced

Sources: Berg (2005), Kahn (2007).

Finally, Kahn (2007) has questioned whether the most transparent central banks gain much from publishing their policy rate forecasts. Nonetheless, the Reserve Bank of New Zealand and Sweden's Riksbank, which are consistent leaders in transparency, appear to see some benefits.

2.4 Not disclosing the underlying policy rate path

Some central banks choose not to disclose the underlying policy rate path even though they publish forecasts for main aggregates such as inflation and output growth. Examples are central banks in Canada, Australia and the US (see Kahn, 2007). By doing so they avoid various drawbacks entailed by all the other options. The Federal Reserve, for example, did not change its forecasts last year even though its view for the future development of policy clashed with the market's view. On the other hand, its forecast provided market agents with very limited information about how it assessed the outlook for the policy rate. It may be asked whether the Fed's monetary policy would not have been more effective had it been even more predictable. Monitoring, interpretation and estimation of forecasts are also complicated by uncertainties in the underlying policy rate forecast path.

3. Central banks' experience of publishing their policy rate forecasts

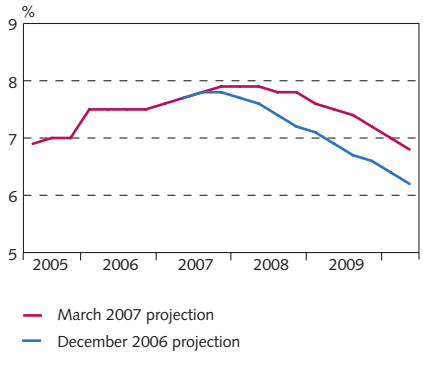
The Reserve Bank of New Zealand (RBNZ) was a pioneer in publication of policy rate forecasts, as in so many other fields. It has published them since 1997. Other central banks were reluctant to follow suit at first. It was claimed that the RBNZ was the only one capable of doing so because the Governor decided the policy rate on his own. However, Norges Bank made a milestone decision to publish its first policy rate forecast in a fan chart at the end of 2005, after abandoning market expectations as an assumption in its forecasts. It wanted to "assume ownership" of its own forecasts (see Norges Bank, 2005, and Bergo, 2006, 2007). Sveriges Riksbank published its first policy rate forecast in February this year (see Rosenberg, 2007 and Sveriges Riksbank, 2007a, b).

3.1 The experience of the Reserve Bank of New Zealand

According to Archer (2005), the RBNZ was prompted to publish its own policy rate forecast because publishing an "official forecast" showing inflation moving off track while asserting that the central bank would do whatever was needed to keep inflation within reasonable bounds was thought likely to create a public relations problem. The RBNZ's decade of experience from publishing its own policy rate forecast has been very positive.

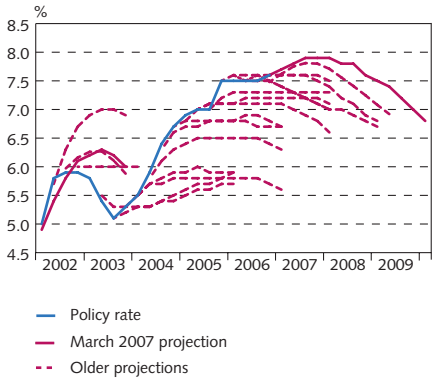
Spencer (2005) underlines that publication of an endogenous policy projection reinforces policy credibility by delivering a set of macro projections that are consistent with achieving the medium-term inflation objective. Also, it provides a clear policy signalling mechanism without being seen as a policy promise. In the view of Spencer (2005), the RBNZ's experience shows that the concerns voiced by Mishkin (2004) are unfounded. The RBNZ has repeatedly changed its policy

Chart 1
RBNZ interest rate projection
Forecast period Q1/2007 - Q1/2010



Source: Reserve Bank of New Zealand.

Chart 2
RBNZ interest rate forecast and actual developments



Source: Reserve Bank of New Zealand.

rate forecasts from one forecast to the next, as shown in Chart 2. One explanation for frequent changes is revised exchange rate forecasts. Archer (2005) considers that markets have shown that they understand the conditionality of interest rate forecasts. An important factor is surely that the RBNZ has been highly aware of informing markets about the conditionality of the interest rate forecast and the uncertainties surrounding it. Its communications strategy has been designed on this principle (see Hampton et al., 2003).

The third advantage of publishing a policy rate forecast, according to the RBNZ, is that it delivers a faster and strong monetary transmission across the yield curve, thereby influencing decisions by market agents. Alan Bollard, Governor of the RBNZ, points out that the obvious advantage of being so explicit in forecasting is that economic agents can learn to anticipate its policy interests. As a result, "market prices adjust automatically on the arrival of new information that is relevant for inflation pressures" (Bollard and Karagedikli, 2006, p. 11). Interestingly, Spencer (2005) considers that the policy projection facilitates attempts to influence the shape of the yield curve, which is critical in a market where 80% of mortgages are fixed-rate although the maturity is shorter than in Iceland.

Thus the experience of the RBNZ seems to indicate that an endogenous policy rate forecast bringing inflation to target is an effective communications tool that offers markets insight into the central bank's systematic approach in its interest rate decision-making. Such an insight can boost the effectiveness of monetary policy. The crucial factor is not to show what will happen, but rather how the monetary authorities respond to the scenario unfolding in the forecast.

Hampton (2002), Spencer (2005) and Archer (2005) explain how the policy rate path is "created". A reaction function is assumed in the bank's macroeconomic model (see Black at al., 1997), a forward-looking reaction that adjusts nominal short-term interest rates when projected inflation six to eight quarters ahead deviates from the target. The resulting policy rate path is then adjusted between the forecasters and governor until it reflects the governor's view of the correct relationship between interest rates and the inflation target.

3.2 The experience of Norges Bank

Norges Bank began publishing policy rate forecasts in November 2005. Until then, its forecasts were based on either a constant policy rate or market expectations. Norges Bank often commented on market expectations and even adjusted the policy path that could be inferred from implied forward interest rates. The development of the policy rate since 2003 has diverged widely from market expectations as reflected in forward rates, so its decision not to base its forecast on them is unsurprising.

Norges Bank uses a fan chart to present its policy rate path in order to emphasise the uncertainties surrounding the forecast. Its forecasts for inflation, the output gap and exchange rate are presented in the same format. Alternative policy rate path scenarios are also presented, e.g. assuming a depreciation of the Norwegian krone. In all its published material discussing desirable monetary policy strategy,

Norges Bank also states categorically that the policy rate path forecast is based on economic developments that may affect it, and that new information may render the assumed developments unrealistic and call for a different policy rate path.

In 2006, Norges Bank's policy rate projections changed as the year passed. The bank identified the need for tighter restraint as the year progressed and this message appears to have been signalled to the market, because implied forward interest rates have risen considerably, as Chart 4 shows.

Norges Bank also gives special emphasis to the policy rate outlook a few months ahead. Since the end of 2002 it has forecast a policy rate range until its next inflation report, which is published three times a year. The stated range is normally roughly one percentage point. This practice has continued even after policy rate path forecasts three years ahead were introduced.

3.3 Norges Bank's criteria for its policy rate path forecasts

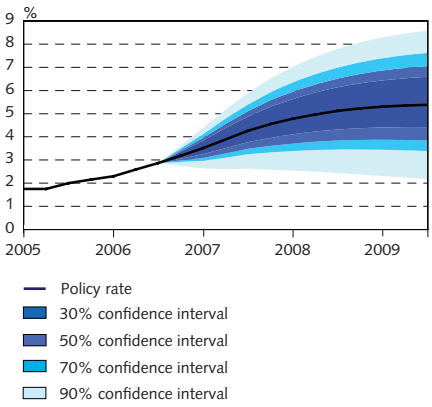
Qvigstad (2006) presents six criteria that Norges Bank's policy rate path must meet (see Table 2). The criteria represent a translation of requirements in monetary theory for systematic, credible and transparent monetary policy. Likewise, they can function as a practical guide for structuring the main issues for discussion at monetary policy committee meetings. The criteria clearly state that monetary policy is all about giving the economy a credible nominal anchor for inflation expectations. This is the essence of the first criterion, which states that interest rate policy must be geared to moving inflation towards the target and stabilising it close to target within a reasonable time horizon. The others describe how the policy rate must develop if such an anchor is ensured.

Table 2. Criteria for optimum future policy rate path

1. If monetary policy is to anchor inflation expectations around the target, the interest rate must be set so that inflation moves towards the target. Inflation should be stabilised near the target within a reasonable time horizon, normally 1-3 years.
2. Assuming that inflation expectations are anchored around the target, the inflation gap and the output gap should be kept in reasonable proportion to each other until they close. The inflation gap and the output gap should normally not both be positive or negative simultaneously some time ahead.
3. Interest rate developments, particularly in the next few months, should result in acceptable developments in inflation and output also under alternative, albeit not unrealistic, assumptions concerning the economic situation and the functioning of the economy.
4. The interest rate should normally be changed gradually so that we can assess the effects of interest rate changes and other new information about economic developments.
5. Interest rate setting must also be assessed in the light of developments in property prices and credit. Wide fluctuations in these variables may constitute a source of instability in demand and output in the somewhat longer run.
6. It may also be useful to cross-check by assessing interest rate setting in the light of some simple monetary policy rules. If the interest rate deviates systematically and substantially from simple rules, it should be possible to explain the reasons for this.

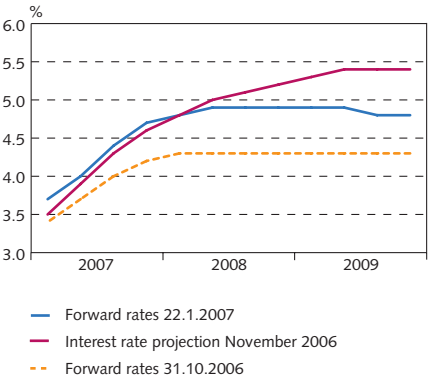
Sources: Norges Bank (2006), Qvigstad (2006).

Chart 3
Norges Bank interest rate projection since November 2006
Forecast period Q1/2007 - Q1/2010



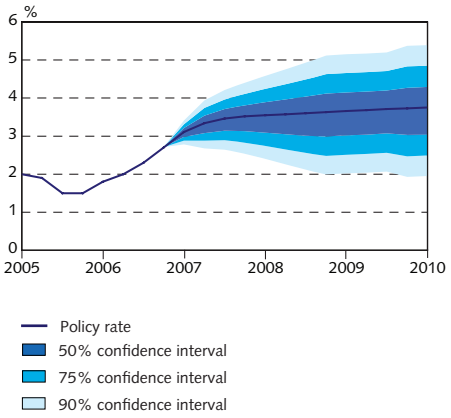
Source: Norges Bank.

Chart 4
Effects of Norges Bank interest rate projection on market expectations



Source: Norges Bank.

Chart 5
Riksbank interest rate projection
Forecast period Q1/2007 - Q1/2010



Source: Riksbank.

3.4 Sweden's Riksbank publishes its own policy rate forecast

In their evaluation of Swedish monetary policy published in 2006, Giavazzi and Mishkin (2006) recommended that the Riksbank should base its forecasts on its own assessment of the policy path. As mentioned earlier, Mishkin had previously advocated that central banks should neither publish policy rate forecasts nor give indications about the future path in their minutes. Giavazzi and Mishkin recommended to the Riksbank to publish just a fan chart of the policy path without showing the most likely path, unlike Norges Bank. Such a presentation would aim to prevent the public and the media from focusing too much on the most likely path in the fan chart, and underline the forecasting uncertainties. The authors also regard this representation as being most consistent with full transparency of the central bank.

The Riksbank announced plans to introduce its own path for the repo rate in mid-January 2007 (see Rosenberg, 2007). Indications had already emerged that the Riksbank would take this step, and the Governor had expressed support for it before Giavazzi and Mishkin published their study. Rosenberg (2007) says that this is a natural next step after the changeover from a constant repo rate to the markets' expected interest rate path. The Riksbank's aim in publishing its own assessment of the future development of the repo rate is to have more influence on market expectations, but it entails no change in the Bank's view of optimal monetary policy-making (see Sveriges Riksbank, 2007a). Thus while the forecast path at any time needs to be consistent with the bank's declarations on desirable monetary policy, it is not described in as precise detail as in the criteria put forward by Qvigstad (2006).[2] In February 2007, the Riksbank published its first policy rate forecast, modelled on Norges Bank's fan chart showing the most probable path (see Sveriges Riksbank, 2007b and Chart 5).

4. Developments at the Central Bank of Iceland

Like other inflation-targeting central banks, the Central Bank of Iceland has attempted to anchor inflation expectations and reduce uncertainty in the markets by indicating its view on the probable medium-term development of the policy rate. The Central Bank has signalled its view in various ways (see Ólafsson, 2006). Initially, *Monetary Bulletin* mainly focused on candid discussion of the interest rate and inflation outlook, but more recently the Central Bank has commented on the expectations that can be inferred from forward interest rates in the market and published policy rate paths generated by macroeconomic model simulations that would ensure the attainment of the inflation target during the forecast horizon. Increased transparency has been reflected in particular by new methodology in preparing the macroeconomic and inflation forecasts.

2. Norges Bank reviewed and simplified Qvigstad's (2006) criteria in its Monetary Policy Report 2007/1, and they are now broadly in line with Sverige Riksbank's announcements (see Norges Bank, 2007).

The Central Bank's macroeconomic and inflation forecasts have changed substantially since it moved onto an inflation target in March 2001 (see Table 3). These developments reflect advances in the Bank's forecasting methods, its commitment to influencing market expectations and growing discontent with the policy rate and exchange rate assumptions in the forecast.

For most of the time, the baseline forecast assumed an unchanged policy rate and unchanged exchange rate across the horizon from the day of forecast. The Central Bank published its first alternative scenario based on implied forward interest rates in the December 2004 issue of *Monetary Bulletin*. In *Monetary Bulletin* in September 2005 the alternative scenario was modified to include market analysts' forecasts for the policy rate path, as well as forward interest rates. This step was taken after glacier bond issues had a considerable impact on interest rate formation in the Treasury bond market, which plays a key role in estimation of implied forward interest rates (see Ólafsson, 2005).

In *Monetary Bulletin* 2006/2 the baseline forecast was prepared in the same way as the previous alternative scenario using market analysts' forecasts and an exchange rate forecast calculated from the macroeconomic model. By comparison, two alternative scenarios were presented in which the policy rate path was respectively left unchanged

Table 3. Assumptions for underlying policy rate path and exchange rate in Central Bank of Iceland forecasts under inflation targeting

MB2001/1-MB2004/3	Unchanged policy rate and unchanged exchange rate across the horizon from the day of forecast (first own macroeconomic forecast in MB2002/4)
MB2004/4-MB2005/2	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates with changed and unchanged exchange rate based on uncovered interest rate parities
MB2005/3-MB2005/4	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates and market analysts' forecast for the policy rate path, with changed and unchanged exchange rate based on uncovered interest rate parities
MB2006/1	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates and market analysts' forecast for the policy rate path, with changed exchange rate based on uncovered interest rate parities. A policy rate path was also presented based on an endogenous monetary rule ensuring that the target is attained by the end of the forecast horizon
MB2006/2-MB2006/3	Baseline forecast: Implied forward interest rates and market analysts' forecast for the policy rate path, exchange rate forecast based on a new quarterly macroeconomic model (QMM). Alternative scenarios: 1) Unchanged policy rate, with QMM exchange rate forecast, 2) Policy rate path ensuring that the target is attained by the end of the forecast horizon (MB2006/3 gives particular priority to making it "look good")

Source: Central Bank of Iceland.

or set to bring inflation as close as possible to target by the end of the forecast horizon. In both scenarios the exchange rate is calculated using the QMM given the respective interest rate assumptions.

The drawbacks of forecasts based on an unchanged policy rate and exchange rate have been clearly seen in recent years. These assumptions have proved increasingly unrealistic, the greater the imbalances in the economy and the inflation rate have become.

Table 4. Central Bank comments on market analysts' policy rate forecasts in *Monetary Bulletin*

MB2004/4 Section VIII	*"In both scenarios, however, it transpires that the expected interest rate rises that can be inferred from forward interest rates are apparently insufficient to keep inflation on target along the forecast horizon." (p. 41)*
MB2005/1 Section VIII	*"Implied forward interest rates thus appear excessively optimistic about how soon the downward policy rate cycle can start. To ensure that the target is attained, the policy rate probably needs to remain high past this autumn, especially if the króna begins to weaken substantially. In that case even further rises in interest rates cannot be ruled out." (p. 44)*
MB2005/3 Introduction and Section VIII	*"Tight monetary policy will be maintained for longer than was expected (Introduction headline, p. 3)"* *"Analysts and other influential parties appear to assume that the Central Bank will allow inflation to rise far beyond the target and stay there without taking any action. As a result, the Central Bank could be compelled to make an unexpectedly large hike in the policy rate in order to bring inflation expectations back down towards the target. Also, a tight stance probably needs to be maintained for longer than has been expected. Market expectations about the policy rate soon peaking and then beginning to fall again are unrealistic and delay the transmission of monetary policy across the interest rate curve." (p. 5)* *"The policy interest-rate path based on market rates is clearly incompatible with the inflation target. Either this path is unrealistic, or the market doubts the Central Bank's commitment to the inflation target. The path could therefore signal that monetary policy lacks credibility." (p. 47)*
MB2005/4 Section III	*"These forecasts are well above those made by the same analysts in the survey published in Monetary Bulletin 2005/3 in September, which were just over 9% one year ahead and 7.5% two years ahead. Contrary to the picture given by implied forward rates, the Central Bank's policy rate hike in September and its policy message in* Monetary Bulletin *then appear to have had a considerable effect on analysts' expectations about the development of interest rates over a two-year horizon." (p. 15)*
MB2006/1 Introduction and Section VIII	*"On the technical assumption that the policy rate and exchange rate remain unchanged, the probability that the inflation target will be attained within the next two years now appears to be almost zero. Assuming that the policy rate follows financial market analysts' forecasts – which entails that the króna will weaken somewhat further – the prospects are even worse." (p. 3)* *"The policy rate will probably need to rise by more than analysts expect." (p. 51)*
MB2006/3 Section IX	*"As discussed above, there are still indications that some rise in the policy rate is needed if the inflation target is to be attained within the next two years. The Central Bank's perspective is therefore quite different from that of certain forecasters who expect a swift reduction in the policy rate early next year, even if this leads to high inflation later. In the Central Bank's view, such a development would be absolutely unacceptable." (p. 55)*

Source: Central Bank of Iceland.

Publishing them is even likely to have had a detrimental effect on inflation expectations, because they showed that inflation was not only above target across the entire horizon but also trended upwards later on. Such a forecast is of very limited value. The Central Bank therefore began publishing forecasts based on market expectations at the end of 2004, which gave it the opportunity to comment in more detail on market expectations and attempt to influence them (see Table 4).

In *Monetary Bulletin* in September 2005, the Bank increased the emphasis given to its views on market expectations about policy rate developments by including them in the Introduction section. This approach appears to have been highly effective. The nominal policy rate hike was transmitted in real terms, because analysts' interest rate expectations became aligned with the Bank's declaration. However, the same analysts soon began to doubt whether the Central Bank was prepared to take real action to follow through the message in the September *Monetary Bulletin*. In other words, they did not seem to consider its monetary policy practice completely credible. Such a lack of confidence can carry a high price, by softening the Central Bank's impact on their expectations and thereby the effectiveness of monetary policy. This experience underlines the need for consistency between the Bank's messages and its monetary policy actions. It also reflects the fact that a strong message in *Monetary Bulletin* is a much vaguer way to impact market expectations than publishing a policy rate path forecast. While market agents have to guess at the size of the policy rate increase implied by strong wording, the foreseen hike required by the Bank is much easier to see from a published interest rate forecast.

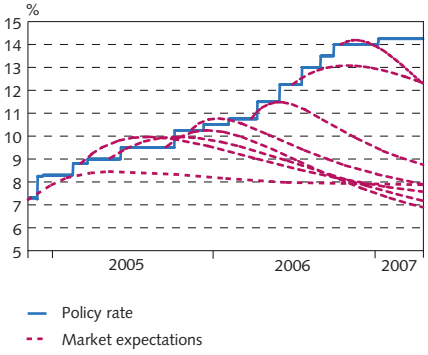
Judging from recent issues of *Monetary Bulletin*, the market agents' view of policy rate developments has been at a tangent from that of the Central Bank. The Central Bank has repeatedly found itself in the position of publishing what it deems an unrealistic baseline forecast, i.e. where inflation is above target across virtually the entire horizon. This has complicated the Bank's efforts to bring market expectations closer into line with its own assessment, impairing its credibility. Another drawback of the arrangement in the latest issues of *Monetary Bulletin* is that the media and market agents do not appear to realise the respective value of each forecast path, which might limit discussion of the Central Bank's forecast.

The policy rate paths underlying Central Bank forecasts since the end of 2004, based on market expectations inferred from implied forward interest rates and survey findings, diverge markedly from the actual outcome (see Chart 6). In the great majority of cases, market agents have expected a lower policy rate a short way along the forecast horizon, whereas it has continued to rise in practice. Naturally, these paths have had a significant impact on the Bank's macroeconomic and inflation forecasts.

Thus a forecast based on a policy rate path that the Bank considers most compatible with the inflation target has unquestionable benefits:

- Market agents receive more information about probable policy rate developments. This is conducive to more efficient pricing in

Chart 6
Policy rate and market expectations in *Monetary Bulletin* 2004/4-2006/3[1]



1. Market expectations are based only on implied forward rates until *Monetary Bulletin* 2005/3 but after that also on survey results.
Source: Central Bank of Iceland.

the market and a stronger impact by the Central Bank on market expectations, and thereby a more effective monetary policy.

- Inflation would always be brought to target within the forecast horizon. This should anchor inflation expectations, boost confidence in the Bank's monetary policy and facilitate its communication to markets and households.
- The forecast should be optimal in the sense of being based on all information available to the Bank.
- The Bank's forecasts would be easier to evaluate and to present as rationale for monetary policy conduct.

Conclusion

This paper has argued that the Central Bank of Iceland should take the step of using its own policy rate forecast in its baseline forecast and make it public. The Central Bank has already made various changes in its procedures in order to increase monetary policy transparency, and has made efforts to organise its communication of policy objectives and formulation so that households and market agents gain a clearer understanding of its conduct. Publication of a policy rate forecast is the logical next step. Increased communication in this area would also bolster the impact of monetary policy, which could support the Bank in its efforts to unwind current macroeconomic imbalances.

Publication of a policy rate forecast would not impose a straightjacket on the Bank. It is normal for each forecast to deviate from the previous one when new information comes to hand with each interest rate decision. Central banks that have followed this approach have found that even substantial changes in policy rate forecasts do not cause serious problems. However, there would probably be more grounds for changing the forecasts in Iceland. The point is not to show what the Bank will definitely do, but how it responds to the scenario unfolding in the macroeconomic and inflation forecasts, in order to give market agents an insight into its monetary policy decision-making. The Bank's forecasts are a communications tool that it uses to demonstrate that its monetary policy practice is credible, systematic and transparent. Ingimundur Fridriksson, Governor of the Central Bank of Iceland, addressed this matter in a recent speech: "What is crucial for the Central Bank is the credibility of its forecasting and the ability to exert the impact on expectations that it deems necessary." (Ingimundur Fridriksson, 2007, p. 7). This paper has argued that, as a tool for communicating with households and markets, the Bank's forecasts serve their purpose best if the underlying policy rate assumptions are as consistent as possible with the Bank's views.

However, publication of policy rate forecasts undeniably constricts monetary policy practice insofar as the Bank must put forward convincing arguments for deviating from a path it has previously announced. Publication of policy rate forecasts requires the Central Bank to establish a context and be consistent in its decision-making and all external communications. Such an approach restricts the Board of Governors' hand to some extent, but precisely for this reason it is conducive to enhancing the Bank's credibility and the impact of its monetary policy measures.

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Monetary policy and instruments

The target and implementation of monetary policy

The target of monetary policy is price stability. On March 27, 2001 a formal inflation target was adopted, as follows:

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

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

The Central Bank announces interest rate decisions on scheduled, prearranged dates. Before an interest rate decision is made, the Board of Governors convenes monetary policy meetings, as detailed in the Bank's Internal rules on the preparation, rationale and presentation of monetary policy decisions, which are set pursuant to the provisions of the Central Bank Act. The Internal rules are published on the Central Bank website, www.sedlabanki.is.

Main monetary policy instruments

In particular, the Central Bank implements its monetary policy by managing money market interest rates, primarily through interest rate decisions for its collateral loan agreements with credit institutions. Yields in the money market have a strong impact on currency flows

Overview of Central Bank interest rates March 23, 2007

	Current rate (%)	*Last change*		*Rate one year ago (%)*
		Date	*Percentage points*	
Current accounts	12.75	Decenber 21, 2006	0.25	9.25
Overnight loans	15.25	Decenber 21, 2006	0.25	12.25
Certificates of deposit, 90 days	-	July 11, 2006	-	10.25
Required reserves	13.00	Decenber 21, 2006	0.25	10.00
Collateral loans (yield) – policy rate	14.25	Decenber 27, 2006	0.25	10.75
Certificates of deposit, 7 days (yield)	14.10	Decenber 27, 2006	0.25	10.60

and thereby on the exchange rate, and in the long run on domestic demand. Broadly speaking, transactions with credit institutions can be classified into fixed trading instruments and market actions.

Fixed trading instruments:

- *Current accounts* are deposits of the credit institutions' undisposed assets. These are settlement accounts for netting between deposit institutions and for interbank market trading, including transactions with the Central Bank. Interest rates on these accounts set the floor for overnight interest rates in the interbank market.
- *Overnight loans* are provided on the request of credit institutions and secured with the same securities that are eligible for collateral loan transactions (see below). Overnight interest rates form the ceiling for overnight interest rates in the interbank market.
- *Certificates of deposit* are issued with a maturity of 90 days, on the request of credit institutions. Although they are unlisted, they are eligible for collateral loan transactions. Their role is to establish the floor for three-month yields in the money market.
- *Required reserves* are made with the Central Bank by credit institutions which are not dependent on Treasury budget allocations for their operations. The required reserve base comprises deposits, issued securities and money market instruments. The required reserve ratio is 2% for the part of the required reserve base which is tied for two years or less. The maintenance period is based on the 21st day of each month until the 20th of the following month, and the two-month average reserve is required to reach the stipulated ratio during the period.

Market operations:

- *Collateral loans* are the Central Bank's main instrument. Auctions of 7-day agreements are held every week. Credit institutions need to put up securities that are eligible as collateral, as specified in the Central Bank's Rules No. 997 of December 10, 2004. Auctions can be fixed-price or auctions where total amount is announced. Fixed-price auctions have been used so far. The interest rate on collateral loans constitutes the Central Bank's policy rate.
- *Certificates of deposit* with a maturity of 7 days are auctioned weekly. Their function is to counteract temporary surplus liquidity in the banking system. The auction format is fixed-price.
- *Securities* market trading is limited to Treasury-guaranteed paper.
- *Foreign exchange market intervention* is employed only if the Central Bank considers this necessary in order to promote its inflation target or sees exchange rate fluctuations as a potential threat to financial stability.

Central Bank of Iceland interest rate decisions

Date *Remaining policy interest decision dates in 2007*	*Policy rate (%)*	*Change*
November 1, 2007		
September 6, 2007		
July 5, 2007		
May 17, 2007		
Previous decisions		
March 29, 2007	14.25	0
February 8, 2007	14.25	0
December 21, 2006	14.25	0.25
November 2, 2006	14.00	0
September 14, 2006	14.00	0.50
August 16, 2006	13.50	0.50
July 6, 2006	13.00	0.75
May 18, 2006	12.25	0.75
March 30, 2006	11.50	0.75
January 26, 2006	10.75	0.25
December 2, 2005	10.50	0.25
September 29, 2005	10.25	0.75
June 3, 2005	9.50	0.50
March 22, 2005	9.00	0.25
February 18, 2005	8.75	0.50
November 2, 2004	8.25	1.00
October 29, 2004	7.25	0.50
September 17, 2004	6.75	0.50
July 1, 2004	6.25	0.50
June 1, 2004	5.75	0.25
May 6, 2004	5.50	0.20
February 10, 2003	5.30	-0.50
December 12, 2002	5.80	-0.50
November 6, 2002	6.30	-0.50
October 15, 2002	6.80	-0.50
September 18, 2002	7.10	-0.50
August 30, 2002	7.60	-0.30
August 1, 2002	7.90	-0.60
June 18, 2002	8.50	-0.30
May 16, 2002	8.80	-0.50
April 30, 2002	9.30	-0.30
March 26, 2002	9.60	-0.50
November 8, 2001	10.10	-0.80
March 27, 2001	10.90	-0.50

Economic and monetary chronicle

November 2006

On November 1, an agreement was signed confirming the Treasury's acquisition of the shares held in Landsvirkjun (the national power company) by the City of Reykjavík and Town of Akureyri, conditional upon the approval of their councils.

On November 9, Fitch Ratings affirmed Iceland's foreign and local currency issuer default ratings of AA-/AAA. The outlook remained negative.

On November 24, Parliament approved a government bill raising mortgage interest relief, in keeping with a commitment made during the public sector wage review in June 2006.

On November 27, Kaupthing Bank issued new shares of nominal value 660 m.kr. in an offering to international institutional investors. On December 1, Kaupthing Bank made a further issue, after exercising overallotment option, of nominal value 99 m.kr. These new issues raised the total nominal value of the bank's listed shares to 7,404,530,530 kr.

In November, the Republic of Iceland completed a five-year €1 billion Eurobond issue in international bond markets. The entire proceeds from the issue were used to strengthen the foreign reserves of the Central Bank of Iceland.

December 2006

On December 1, market makers in the FX market began trading in euros instead of US dollars. Their minimum indicative bid is set at € 3 million. Market makers continue to quote prices in US dollars.

On December 1, OMX AB shares were listed on Iceland Stock Exchange (ICEX) Main List. The listing of OMX was the first secondary listing on ICEX. OMX shares are primary-listed on Stockholm Stock Exchange.

On December 4, the state budget for 2007 was passed by Parliament. The surplus excluding irregular items is estimated at 9 b.kr., with total revenues amounting to 376 b.kr. and total expenditures 367 b.kr.

On December 4, the supplementary budget for 2006 was passed by Parliament. Additional revenues amounted to 44 b.kr. and additional expenditures to 20 b.kr., and additional borrowing of 87 b.kr. was authorised in order to strengthen the Central Bank of Iceland's foreign reserves.

On December 8, Parliament agreed to convert Municipality Credit Iceland into a statutory limited liability company.

On December 8, the Government agreed to raise unemployment benefit by 2.9% on January 1, 2007, instead of the previously announced increase of 2.25%.

On December 8, the Financial Supervisory Authority (FME) approved the merger of two savings banks, Sparisjóður vélstjóra and Sparisjóður Hafnarfjarðar.

On December 9, Parliament passed a government-sponsored bill raising the minimum pension fund contribution from 10% of wages to 12% and authorising funds no longer backed by employer guarantees to amend their articles of association accordingly.

On December 9, Parliament amended the Income Tax Act to lower the personal income tax rate by 1 percentage point at the beginning of 2007, instead of the previously announced 2 percentage points, while increasing the personal tax-free threshold by 14%. The personal tax credit was also indexed to the CPI and child allowance extended to the age of 18.

On December 9, Parliament agreed to extend the temporary cut in fuel tax and mileage tax on heavy-duty vehicles from 2004 until the end of 2007.

On December 9, Parliament agreed to cut VAT and excise on food, catering, compact discs and other categories from 14% or 24.5% to 7%, and to abolish commodity taxes on domestic and imported food excluding confectionery.

On December 9, Parliament agreed to cut the payroll tax by 0.45 percentage points, and 0.25% of the payroll tax base will be paid annually to pension funds in proportion to their disability benefit commitments, phased in at 0.15% in 2007 and 0.20% in 2008.

On December 19, Straumur-Burðarás investment bank announced its decision to prepare its accounts and annual financial statements in euros effective from January 1, 2007. At its annual meeting in March 2007, shareholders in Straumur-Burðarás approved an amendment to the company's articles authorising the board to determine the issue of company share capital in euros instead of Icelandic krónur.

On December 21, the Governors of the Central Bank of Iceland announced that the Bank would raise its policy interest rate (i.e. its collateral loan rate in transactions with credit institutions) by 0.25 percentage points to 14.25%. Other Central Bank interest rates were also raised by 0.25 percentage points. Interest rates on one-week certificates of deposit and the collateral loan rate were raised as of December 27 and other rates as of December 21.

On December 22, Standard & Poor's Ratings Services lowered its foreign currency sovereign credit ratings on the Republic of Iceland to A+ long-term and A-1 short-term, from AA- and A-1+, respectively. At the same time, the long-term local currency rating on Iceland was lowered to AA from AA+, and the short-term local currency rating was affirmed at A-1+. The outlook was changed from negative to stable.

February 2007

On February 6, Moody's Investors Service downgraded the financial strength rating of Glitnir from C+ to C, and affirmed the bank's A1/P-1 credit rating.

On February 20, the Central Bank of Iceland made króna-denominated bonds issued outside Iceland eligible as collateral for its loan facilities. Conditions include a minimum issue of 20 b.kr.

On February 23, Moody's Investor Service upgraded the credit ratings of Kaupthing Bank, Glitnir and Landsbanki due to changes in its joint default analysis (JDA) methodology. Long-term credit ratings were upgraded to Aaa, from A1 for Glitnir and Kaupthing Bank and from A2 for Landsbanki. Ratings for short-term obligations in local and foreign currencies and for financial strength were affirmed at P-1 and C, respectively. Shortly after the upgrade, Moody's announced that it would review its methodology and issue new ratings in April 2007.

March 2007

On March 1, the Housing Financing Fund raised its loan-to-value ratio from 80% to 90% and its maximum mortgage amount from 17 m.kr. to 18 m.kr.

On March 2, Landsbanki announced the sale of all its shares in Landsafl real estate investment company. The sale positively impacted Landsbanki's equity by approximately 3.5 b.kr.

On March 15, 2007 Fitch Ratings downgraded Iceland's foreign and local currency issuer default ratings to A+ and AA+ from AA- and AAA respectively. The outlook on both ratings was stable. The short-term foreign currency rating was also downgraded to F1 from F1+ and the country ceiling was lowered to AA- from AA.

On March 16, Parliament amended the Act on the Affairs of the Elderly whereby taxpayers paying only personal capital income tax now pay the same rate of contribution to the Senior Citizens' Building Fund as payers of personal income tax on wages.

On March 17, Parliament passed a government bill exempting companies from income tax on their gains on trading in equities that they have held for more than one year.

On March 16, Glitnir announced that it had completed the acquisition of 68.1% of shares in FIM Group Corporation of Finland. Glitnir planned to launch a tender offer for the remaining shares in FIM Group in early April. In all, Glitnir will pay 30 b.kr. to acquire FIM Group.

Featured statistic

Household overdrafts

Household overdrafts have been under discussion in the media recently. The following summary attempts to shed light on their development and includes calculations of stocks such as interest expense and average overdraft per capita of population.

Household overdrafts have been under discussion in the media in recent months. They amounted to 72 b.kr. at the end of January 2007, according to the deposit money banks' (DMBs') reports to the Central Bank of Iceland. As shown in Chart 1, they remained virtually unchanged in 2006 after a considerable increase in 2004-2005 based on current prices. The growth is much smaller measured in terms of constant February 2007 prices.

It is also interesting to note that there was only a small reduction in household overdrafts when the banks entered the housing mortgage market in autumn 2004. At that time, claims were made that many households had converted their overdrafts to long-term loans – with maturities up to 40 years – with equity withdrawal by taking large mortgages. Nonetheless, overdrafts fell by only 6 b.kr. (10%) from August 2004 to the end of that year, and began to increase again immediately in January 2005.

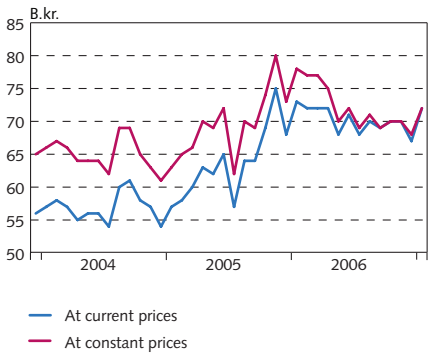
Overdrafts are generally the most expensive credit option that DMBs offer to households. The highest overdraft rate at most DMBs is currently 23.95%, although some client groups such as students and prime customers enjoy easier terms. Households' interest expense on these loans can be calculated using the above stock figures and interest rate.

One qualification needs to be made for such calculations, however. The end-of-month overdraft stock figure includes debt on credit cards issued by the DMBs themselves (i.e. not by credit card companies). Total credit card turnover over the fiscal month December-January was just under 25 b.kr., for example. After excluding corporate credit card turnover, interest-bearing instalments and debts on cards issued by the DMBs themselves, the non-interest-bearing credit card debt of households included in their overdrafts amounted to almost 17 b.kr.

The non-interest-bearing figure should therefore be subtracted from the overdraft stock before interest is calculated. Accordingly, interest expense on overdrafts in January 2007 would amount to 1,097 m.kr., instead of the figure of 1,437 m.kr. derived from the total overdraft stock – a difference of 340 m.kr. In both cases, the maximum overdraft rate of 23.95% is used.

Dividing the overdraft stock by the population aged 18 and older (228,203 at the end of 2006, according to Statistics Iceland) produces an average overdraft figure of 240 thousand kr. per adult at the end of January 2007. Interest on that stock would be almost 5 thousand kr. in January, or 60 thousand kr. per year. Since these are average figures, the interest burden of some households is obviously much higher.

Chart 1
Household overdrafts
December 2003 - January 2007
Position at end of year



Source: Central Bank of Iceland.

Tables and charts

Tables and charts are generally based on statistical information available on March 21, 2007, apart from financial market data, which are from February 28, 2007. A list of symbols is on p. 2.

A Tables

B Charts

Table 1 Main monthly indicators

	Consumer prices		Exchange rate		Interest rates (end of period, %)						Money and credit (end of period)[5]			
	% change in CPI[1] over the previous		% ch. in effective exchange rate [1,2]		Short-term rates			Long-term rates[4]			12-month % change			
	1 month	12 months	1 month	12 months	Central Bank repo yield	3-month REIBOR[3]	RIKB 10 0317	RIKB 13 0517	RIKS 15 1001	DMB HFF 150644	Base money	M3	DMB lending[6]	DMB foreign liabilities
2001	.	6.7	.	-16.7	10.10	12.5	.	.	5.1	.	-14.2	14.9	13.4	30.1
2002	.	4.8	.	3.0	5.80	6.2	.	7.6	4.9	.	17.2	15.3	0.9	-2.8
2003	.	2.2	.	6.4	5.30	5.1	.	7.9	4.3	.	-33.5	17.5	16.0	67.3
2004	.	3.2	.	2.1	8.25	8.6	7.8	7.4	3.6	3.5	77.7	15.0	39.5	59.2
2005	.	4.0	.	11.4	10.50	10.2	7.9	7.8	4.1	4.1	23.1	23.2	51.5	96.4
2006	.	6.8	.	-10.5	14.25	15.2	9.8	8.9	4.9	4.2	25.4	19.4	41.4	73.5
2005														
july	0.1	3.5	1.3	11.5	9.50	9.3	7.6	7.3	3.7	3.7	-18.2	19.1	54.8	110.4
August	0.2	3.7	0.5	11.5	9.50	9.3	7.4	7.4	3.6	3.6	-10.9	21.1	50.5	100.7
September	1.5	4.8	2.6	14.7	9.50	10.0	7.6	7.7	3.6	3.7	-5.4	12.9	55.8	82.6
October	0.6	4.6	3.5	18.1	10.25	10.1	7.8	7.8	4.0	4.0	-6.4	19.4	49.0	91.6
November	-0.2	4.2	0.1	16.5	10.25	10.1	8.0	7.8	4.2	4.1	15.7	27.2	53.7	97.9
December	0.4	4.1	-3.0	8.2	10.25	10.2	7.9	7.8	4.1	4.1	23.1	23.2	51.5	96.4
2006														
January	0.3	4.4	1.7	8.0	10.50	10.3	8.3	8.3	4.5	4.4	-3.9	17.8	51.1	95.7
February	-0.1	4.1	-3.1	3.1	10.75	10.4	8.0	7.9	4.0	4.1	40.8	20.6	51.7	113.4
March	1.1	4.5	-8.2	-7.4	10.75	11.3	9.1	8.6	4.4	4.2	85.2	26.2	56.9	126.1
April	1.1	5.5	-8.0	-12.8	10.75	11.7	10.4	9.1	4.3	4.2	64.6	26.2	57.7	121.3
May	1.4	7.6	0.4	-10.1	11.50	11.9	9.9	8.9	4.0	4.1	44.9	22.2	52.1	94.0
June	1.2	8.0	-3.1	-14.9	12.25	12.5	10.3	9.1	4.4	4.2	8.5	20.0	53.7	96.4
July	0.5	8.4	0.4	-15.7	12.25	12.6	9.8	8.9	4.5	4.2	36.8	21.0	52.1	78.7
August	0.3	8.6	4.7	-12.2	13.00	13.3	8.8	8.0	4.3	4.1	50.4	17.9	47.2	80.0
September	0.6	7.6	1.0	-13.5	13.50	13.5	8.6	7.8	4.1	3.9	30.7	17.9	42.2	81.2
October	0.2	7.2	3.2	-13.8	14.0	14.3	9.2	8.0	4.6	4.2	60.2	19.3	39.5	75.1
November	0.0	7.3	-2.7	-16.2	14.0	14.5	9.7	8.4	4.8	4.3	37.3	9.4	36.8	75.5
December	0.0	7.0	-2.1	-15.4	14.0	15.2	9.8	8.9	4.9	4.2	25.4	19.4	41.4	73.5
2007														
January	0.3	6.9	0.3	-16.6	14.3	15.1	9.3	8.3	5.1	4.4	33.1	15.4	37.3	68.7
February	0.4	7.4	3.5	-10.9	14.3	15.3	9.9	8.8	5.5	4.4	44.4	17.9	32.1	55.8
March	-0.3	5.9	...	...	...	...	...	...	...	...	...	...	...	...

1. Percentage changes between period averages. 2. Based on the official effective exchange rate basket (trade-weighted). Positive sign indicates appreciation of the Icelandic króna. 3. Average yield on the interbank market in Icelandic króna. 4. For Treasury bonds and HFF bonds, the quoted yield is in excess of changes in the CPI. Trading with HFF bonds began in July 2004; prior figures are for housing bonds. 5. Annual figures are changes over year. Latest figures are preliminary. 6. DMBs = deposit money banks = commercial and savings banks and other institutions permitted to accept deposits from the public.

Table 1 (continued) Main monthly indicators

	Foreign exchange market and reserves				Foreign trade and external conditions					Labour market		Treasury financial balance, % of revenues, from Jan. 1[12]	Asset prices 12-mo. % changes	
	Gross foreign currency reserves:			CB net purchases (b.kr.)	Trade balance (b.kr.)	Merchandise exports (b.kr.)	Merchandise imports (b.kr.)	Marine product prices 12-mo.% ch.[9]	Real exchange rate of króna[10]	Unemployment	Wages, 12-mo. % change[11]		Equity prices[13]	Housing prices[14]
	B.kr.	as ratio of: Merch. imports[7]	as ratio of: For. short-term liabil.[8]											
2001	36.6	2.1	0.40	-29.5	-6.7	196.4	203.1	1.6	87.3	1.4	8.8	-0.7	-11.2	3.1
2002	37.2	2.5	0.20	4.5	13.1	204.3	191.2	3.4	91.7	2.5	7.2	-7.4	16.7	7.5
2003	58.1	3.5	0.25	43.2	-16.9	182.6	199.5	0.4	96.0	3.4	5.6	-8.1	56.4	9.1
2004	65.6	3.6	0.24	27.2	-37.8	202.4	240.2	0.6	98.1	3.1	4.7	0.0	58.9	23.3
2005	67.3	2.9	0.16	24.6	-94.5	194.4	288.9	8.9	111.4	2.1	6.8	8.5	64.7	31.0
2006	68.5	2.8	0.20	18.0	-148.6	242.7	391.3	8.5	104.2	1.3	9.5	17.3	15.8	5.0
2005														
July	58.8	2.8	0.17	0.7	-10.0	13.9	23.9	8.1	109.3	2.0	6.6	3.6	38.3	39.4
August	58.3	2.7	0.18	0.8	-13.0	14.4	27.4	10.1	110.3	1.8	6.7	4.9	38.0	40.4
September	70.7	3.2	0.20	2.5	-10.4	16.9	27.3	11.5	113.7	1.4	6.9	4.4	21.8	37.0
October	59.5	2.7	0.16	3.2	-5.5	16.0	21.6	10.3	118.0	1.4	6.9	6.7	39.0	36.4
November	64.2	2.8	0.16	3.4	-11.0	16.7	27.8	9.0	118.7	1.5	7.3	6.4	48.4	35.5
December	67.3	2.9	0.16	3.5	-9.4	13.7	23.1	5.1	115.4	1.5	7.2	8.5	64.7	31.0
2006														
January	68.5	2.8	0.17	1.4	-8.4	17.1	25.5	6.0	117.5	1.6	8.3	38.0	69.6	25.3
February	72.1	2.9	0.12	1.3	-7.8	14.7	22.4	4.5	114.1	1.6	8.6	30.8	74.9	21.7
March	79.9	2.8	0.10	1.6	-16.1	19.9	36.1	4.2	105.6	1.5	8.6	25.4	50.5	20.9
April	66.2	2.1	0.08	1.5	-10.8	19.1	29.9	4.9	97.6	1.3	8.4	19.4	35.7	17.7
May	70.4	2.3	0.1	1.8	-13.7	23.9	37.7	6.8	98.7	1.3	8.7	18.5	41.3	13.2
June	76.8	2.3	0.1	1.5	-15.4	26.4	41.8	8.3	96.4	1.3	8.8	16.1	32.4	13.1
July	74.3	2.3	0.1	1.7	-18.6	19.4	38.0	10.7	97.2	1.4	10.2	17.2	22.4	7.5
August	72.6	2.3	0.1	1.6	-14.4	16.6	31.0	10.7	101.9	1.2	10.6	14.6	28.6	10.8
September	71.3	2.3	0.1	1.4	-7.4	25.4	32.7	10.2	103.4	1.0	10.8	15.6	35.8	10.5
October	70.9	2.3	0.1	1.5	-7.0	20.0	27.0	11.1	106.9	1.0	11.0	15.8	35.1	7.2
November	92.4	2.9	0.1	1.6	-15.9	20.2	36.0	11.7	103.7	1.1	10.5	15.6	21.0	4.8
December	167.9	4.9	0.2	1.2	-13.1	20.1	33.3	11.2	101.1	1.1	9.8	17.3	15.8	5.0
2007														
January	160.4	5.0	...	1.9	-6.9	19.2	26.2	...	102.7	1.3	10.1	45.5	12.3	6.9
February	160.1	...	...	...	...	...	...	...	107.1	1.3	9.8	...	10.8	5.0
March	...	...	...	...	...	...	...	...	...	...	...	...	...	...

7. Gross foreign exchange reserves at end of period as a ratio of the average monthly value of merchandise imports. Calculated at fixed exchange rates. 8. The denominator is foreign short-term liabilities of credit institutions (deposit money banks and investment banks). 9. Prices in SDR. Annual figures are % changes between annual averages. 10. Real effective exchange rate of the Icelandic króna based on relative consumer prices (a trade-weighted average of 17 trading partner countries' consumer prices is used). 1980 = 100. 11. Annual figures show change in annual averages. 12. Cash basis. Without privatisation revenues. Adjusted for changed timing of expenditure charges in Jan.-Nov. 2004. 13. The ICEX-15 index. Annual figures are % changes over year. 14. Residential housing in the Greater Reykjavík Area. Annual figures are % changes over year.

Sources: Directorate of Labour, Iceland Stock Exchange (ICEX), Land Registry of Iceland, State Accounting Office, Statistics Iceland, Central Bank of Iceland.

Table 2 Historical economic indicators

	Consumer prices [1]		Króna effective exchange rate			Interest rates (%)			Money and credit			Ratio of gr. reserves to merch. imports[5]	External debt, % of GDP[6]	Growth of real GDP (%)
				Real exchange rate[3]					% change over year					
	Consumer price index	CPI inflation (%)	Nominal exchange rate[2]	Relative CPI	Relative ULC	Gov. bonds average yield[4]	Banks' secured lending (real yield) Non-indexed	Banks' secured lending (real yield) Indexed	M3	DMBs' lending	Credit system lending			
1978	3.5	44.0	13.9	107.1	117.7	3.3	-13.4	.	48.7	47.3	62.8	2.6	39.2	6.0
1979	5.0	44.5	18.7	101.7	111.2	3.5	-15.4	.	55.9	58.1	46.4	2.5	39.7	4.9
1980	8.1	61.8	25.9	101.8	110.4	3.5	-8.3	2.3	65.4	66.4	71.1	2.4	35.9	5.7
1981	12.2	50.8	34.7	106.2	115.0	3.2	-1.7	2.5	70.5	72.2	54.1	3.0	36.5	4.3
1982	18.4	51.0	54.5	97.7	112.7	3.5	-9.4	2.9	58.0	92.0	100.2	2.1	46.4	2.2
1983	33.9	84.2	100.0	91.8	94.1	3.8	-14.2	3.0	78.7	85.6	82.9	2.5	57.2	-2.2
1984	43.7	29.2	116.3	96.3	91.2	7.0	3.4	5.5	33.4	43.0	40.2	2.1	60.2	4.1
1985	57.9	32.4	148.7	94.8	91.1	6.9	-2.3	5.0	47.6	29.7	35.2	2.8	63.6	3.3
1986	70.2	21.3	171.0	97.1	91.9	8.5	4.3	5.2	35.0	19.1	20.1	3.6	56.5	6.3
1987	83.4	18.8	177.3	106.0	117.1	8.7	4.7	7.7	35.2	42.1	31.4	2.4	49.4	8.6
1988	104.6	25.4	202.6	111.4	126.5	8.7	11.8	9.2	24.0	37.2	34.0	2.4	51.3	-0.1
1989	126.7	21.1	254.7	102.4	110.2	7.4	6.5	7.8	27.2	25.2	33.8	3.0	56.8	0.3
1990	145.5	14.8	283.7	99.1	98.4	7.0	9.3	8.0	14.9	11.0	12.5	3.3	55.2	1.2
1991	155.4	6.8	283.6	101.7	100.3	8.1	10.0	9.2	14.4	11.6	15.4	3.2	56.0	-0.2
1992	161.2	3.7	285.0	101.7	101.6	7.4	11.8	9.3	3.8	5.3	11.8	4.0	58.8	-3.4
1993	167.8	4.1	308.8	96.2	93.5	6.7	11.5	9.1	6.5	5.0	11.1	4.3	66.7	1.3
1994	170.3	1.5	324.8	89.3	82.2	5.0	9.5	7.9	2.3	-1.3	4.5	2.6	63.4	3.6
1995	173.2	1.7	322.3	89.4	86.9	5.6	10.1	8.7	2.2	0.0	5.9	2.4	63.4	0.1
1996	177.1	2.3	322.9	89.7	87.8	5.5	10.5	8.9	6.8	11.8	9.3	3.0	62.5	4.8
1997	180.3	1.8	318.7	90.5	89.2	5.3	11.1	9.0	8.7	12.7	11.8	2.6	64.5	4.8
1998	183.3	1.7	313.6	91.9	92.2	4.7	11.8	8.8	15.1	30.3	15.1	2.2	69.5	6.4
1999	189.6	3.4	313.1	93.6	96.8	4.4	8.0	8.6	17.1	22.8	17.3	2.6	82.0	4.1
2000	199.1	5.0	313.3	96.2	100.0	5.1	12.7	9.5	11.2	26.2	17.2	2.1	101.5	4.3
2001	212.4	6.7	376.3	83.7	87.1	5.1	9.4	10.2	14.9	13.4	19.2	2.1	121.6	3.9
2002	222.5	4.8	365.2	88.5	91.7	5.2	13.7	10.1	15.3	0.9	3.2	2.5	110.4	-0.1
2003	227.3	2.2	343.3	94.1	97.0	4.4	9.4	9.1	17.5	16.0	11.8	3.5	136.0	2.7
2004	234.2	3.2	336.3	97.2	94.5	3.9	8.3	8.0	15.0	39.5	19.7	3.6	175.5	7.6
2005	243.6	4.0	301.8	107.1	105.9	3.7	10.7	7.2	23.2	51.5	30.8	2.9	280.4	7.2
2006	260.6	6.8	337.2	104.2	106.0	4.6	10.9	6.9	19.4	41.4	12.5	2.8	440.8	2.6

1. Annual averages (May 1988=100) and changes between years. 2. Annual averages. Exchange rate of the króna against a trade-weighted average of foreign currencies. 1983=100. 3. 1980=100. ULC=unit labour cost. 4. Annual average yield of indexed Treasury bonds of all maturities. Yields on Iceland Stock Exchange from 1987. Before that primary market yields. 5. Gross foreign exchange reserves at end of period as a ratio of the average monthly value of merchandise imports. Calculated at fixed SDR exchange rates. 6. Gross debt. Equity capital excluded.

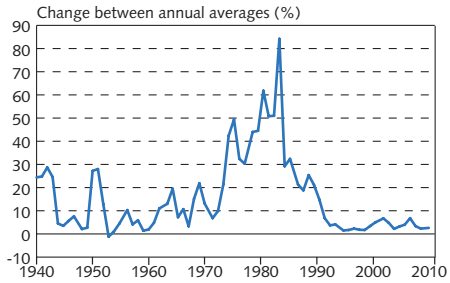
Table 2 (continued) Historical economic indicators

	Components of GDP (% change from previous year)			External trade (% change from previous year)				General government (% of GDP)[7]			Labour market (% of labour force)		Wages (% change from previous year)	
	Private consump-tion	Gross fixed cap. formation	National expendi-ture	Goods & services (volume changes) Exports	Goods & services (volume changes) Imports	Terms of trade	Curr. acc. balance (% of GDP)	Financial balance	Revenues	Expen-ditures	Unem-ployment	Labour particip.[8]	Real wages[9]	Real disp. income per capita
1978	9.0	-5.5	2.1	15.2	3.7	0.2	1.2	0.1	31.0	30.9	0.3	73.6	.	8.5
1979	2.8	-1.8	3.4	6.3	2.5	-8.6	-0.7	0.9	32.4	31.4	0.4	73.0	.	2.0
1980	3.4	13.9	5.9	2.7	3.0	-2.8	-2.0	1.4	35.4	34.1	0.3	74.1	.	1.1
1981	6.2	1.2	5.7	3.2	7.1	-0.4	-4.1	1.3	36.8	35.5	0.4	76.8	0.7	5.4
1982	4.9	0.1	5.0	-8.9	-0.6	-0.7	-8.0	1.7	37.9	36.2	0.8	77.6	1.7	2.2
1983	-5.6	-12.7	-8.6	11.0	-9.7	-1.4	-1.9	-2.0	35.8	37.8	1.0	77.4	-16.7	-12.5
1984	3.7	9.4	6.4	2.4	9.2	0.7	-4.6	2.2	36.9	34.7	1.3	77.6	-3.1	-2.5
1985	4.2	1.0	2.7	11.1	9.4	-0.9	-3.9	-1.6	35.4	37.0	0.9	79.3	1.2	10.8
1986	6.9	-1.6	4.5	5.9	1.0	5.4	0.5	-4.0	35.4	39.4	0.7	80.9	5.7	9.5
1987	16.2	18.8	15.7	3.3	23.3	4.3	-3.4	-0.8	35.6	36.5	0.4	84.1	9.0	25.8
1988	-3.8	-0.2	-0.6	-3.6	-4.6	-0.8	-3.4	-2.0	39.5	41.5	0.6	80.1	2.2	-2.7
1989	-4.2	-7.9	-4.4	2.9	-10.3	-3.9	-1.3	-4.4	38.5	43.0	1.7	78.7	-9.1	-9.4
1990	0.5	3.0	1.5	0.0	1.0	-2.0	-2.1	-3.3	38.1	41.4	1.8	77.5	-4.9	-4.6
1991	3.0	2.6	3.5	-5.9	5.3	3.4	-4.0	-2.9	39.8	42.7	1.5	76.2	1.4	2.1
1992	-3.2	-10.3	-4.6	-2.0	-6.0	-0.6	-2.4	-2.8	40.8	43.6	3.1	75.5	-0.8	-2.7
1993	-4.6	-9.8	-2.9	6.5	-7.5	-3.6	0.7	-4.5	39.0	43.4	4.4	75.3	-2.6	-7.6
1994	2.9	-0.2	1.8	9.3	3.8	0.3	1.9	-4.7	38.6	43.2	4.8	75.4	-0.3	0.0
1995	2.2	-1.7	2.2	-2.3	3.6	1.0	0.7	-3.0	39.6	42.5	5.0	75.7	2.8	4.4
1996	5.7	25.0	6.8	9.9	16.5	-3.2	-1.8	-1.6	40.5	42.0	4.4	81.0	4.0	3.8
1997	6.3	8.8	5.7	5.6	8.0	2.0	-1.8	0.0	40.5	40.5	3.9	81.8	3.6	5.1
1998	10.2	34.9	13.9	2.5	23.4	5.2	-6.8	-0.4	40.9	41.3	2.8	81.1	7.6	6.2
1999	7.9	-4.1	4.3	4.0	4.4	-0.7	-6.8	1.1	43.2	42.0	1.9	81.3	3.3	3.1
2000	4.2	11.8	5.9	4.2	8.6	-2.4	-10.2	1.7	43.6	41.9	1.3	82.9	1.6	5.3
2001	-2.9	-4.5	-2.1	7.4	-9.1	0.3	-4.3	-0.7	41.9	42.6	1.4	81.6	2.0	-1.4
2002	-1.5	-14.9	-2.5	3.8	-2.5	0.6	1.5	-2.6	41.8	44.4	2.5	81.0	2.3	2.0
2003	6.2	12.5	6.1	1.6	10.8	-4.1	-4.8	-2.8	42.8	45.6	3.4	82.3	3.4	1.7
2004	6.9	28.0	9.8	8.4	14.4	-1.3	-9.8	0.2	44.3	44.1	3.1	83.2	1.4	4.3
2005	12.9	34.3	15.5	7.2	29.4	0.9	-16.1	5.2	47.6	42.3	2.1	83.5	2.6	4.9
2006	4.6	13.0	7.4	-5.6	8.8	-3.6	-26.7	5.3	46.7	41.4	1.3	83.6	2.6	5.7

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

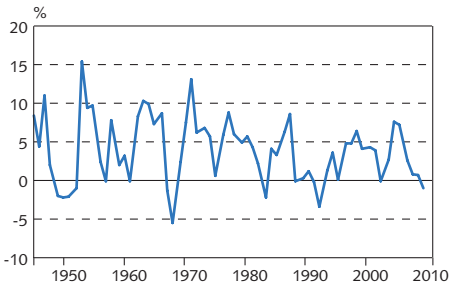
Sources: Directorate of Labour, Iceland Stock Exchange, Ministry of Finance, Statistics Iceland, Central Bank of Iceland.

Chart 1
Consumer price inflation 1940-2009[1]



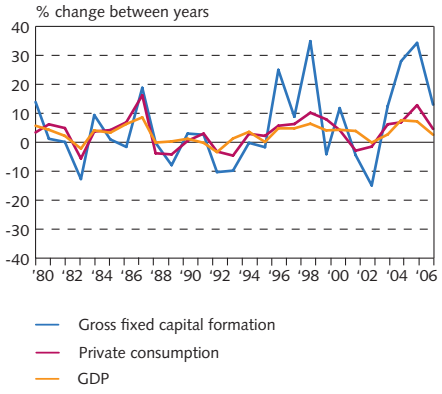
1. Central Bank forecast for 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2
Economic growth 1945-2009[1]
Change in real GDP between years



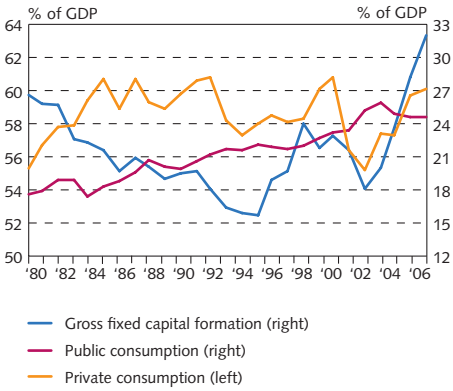
1. Preliminary 2006. Forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3
Growth of GDP, private consumption and gross fixed capital formation 1980-2006[1]



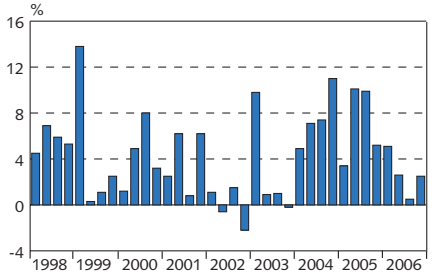
1. Preliminary 2006.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 4
Private consumption, public consumption and gross fixed capital formation 1980-2006[1]



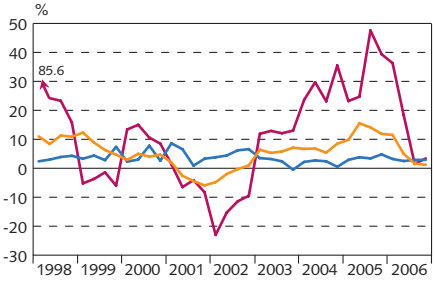
1. Preliminary 2006.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 5
Quarterly economic growth
Q1/1998 - Q4/2006[1]
Volume change in GDP over four quarters (%)



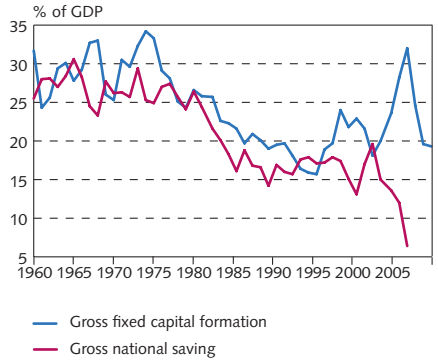
1. Latest data are preliminary.
Source: Statistics Iceland.

Chart 6
Components of economic growth
Q1/1998 - Q4/2006[1]
Volume change over four quarters (%)



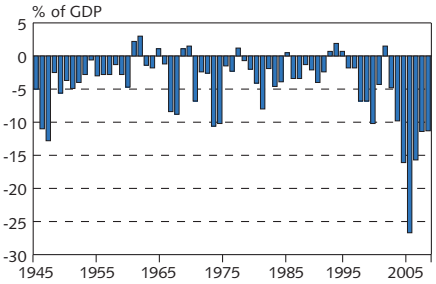
1. Latest data are preliminary.
Source: Statistics Iceland.

Chart 7
Gross national saving and
fixed capital formation 1960-2009[1]



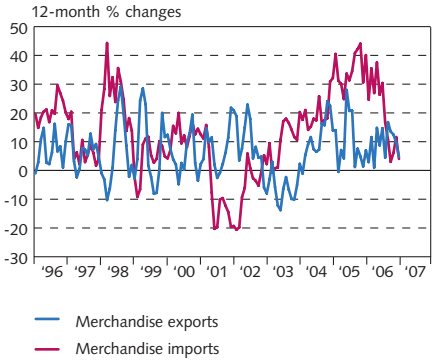
1. Preliminary 2006. Forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 8
Current account balance 1945-2009[1]



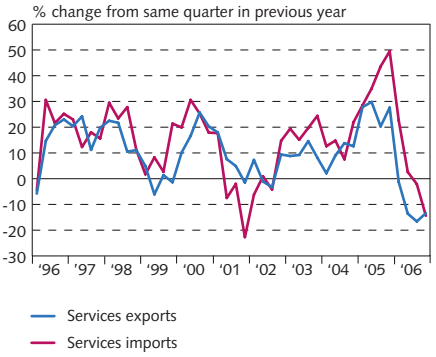
1. Preliminary 2006. Forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 9
Merchandise trade
January 1996 - January 2007[1]
3-month moving averages at fixed exchange rates



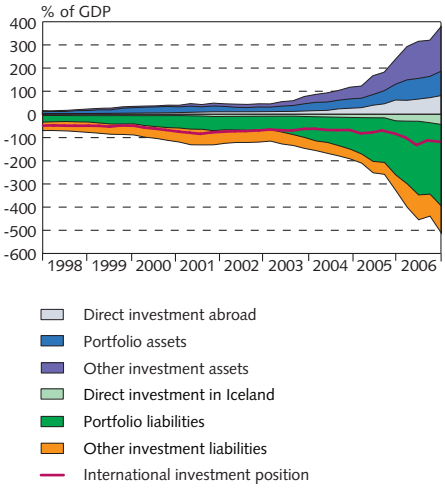
1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 10
Exports and imports of services
Q1/1996- Q4/2006[1]
At constant exchange rate



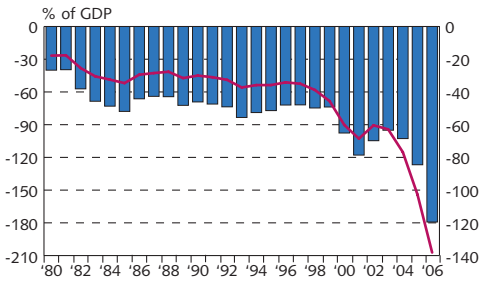
1. Latest data are preliminary.
Source: Central Bank of Iceland.

Chart 11
External debt and assets Q1/1998- Q4/2006[1]
At current prices



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

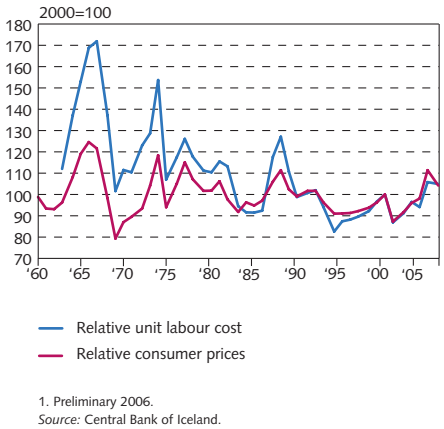
Chart 12
External debt position 1980-2006[1]
At end of year and latest quarter



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

Chart 13

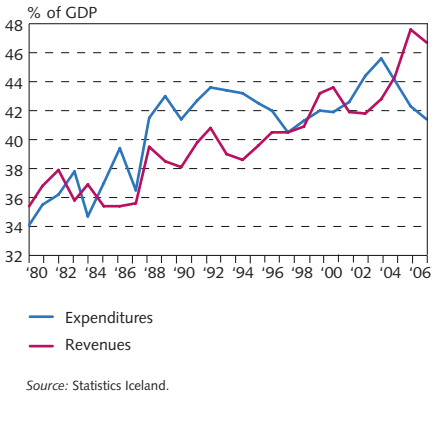
Real effective exchange rate of the Icelandic króna 1960-2006[1]



1. Preliminary 2006.
Source: Central Bank of Iceland.

Chart 14

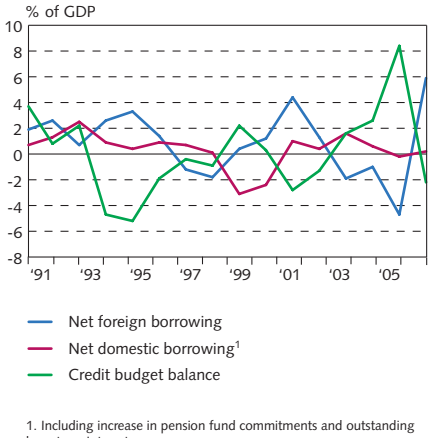
General government revenues and expenditures 1980-2006



Source: Statistics Iceland.

Chart 15

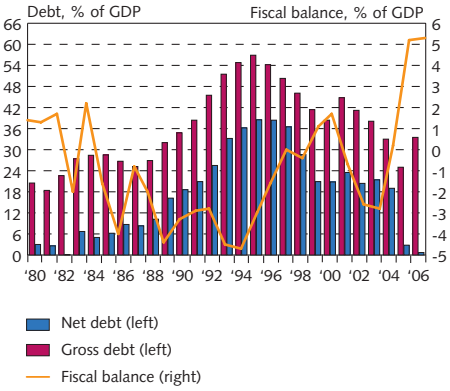
Treasury borrowing 1991-2006



1. Including increase in pension fund commitments and outstanding long-term interest.
Source: Treasury accounts.

Chart 16

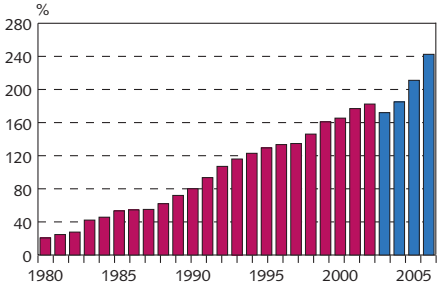
General government balance and debt 1980-2006



Sources: Statistics Iceland, Central Bank projections.

Chart 17

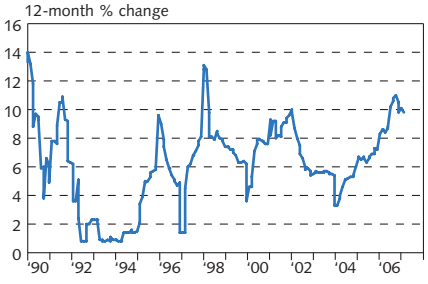
Household debt as percentage of disposable income 1980-2006[1]



1. New classification from 2003 (blue columns). Forecast for 2006.
Source: Central Bank of Iceland.

Chart 18

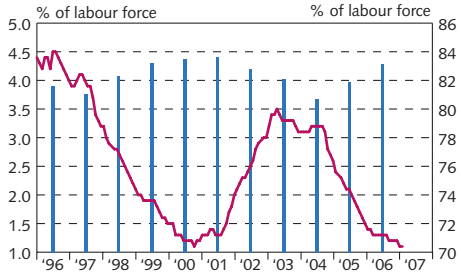
Statistics Iceland wage index January 1990 - February 2007



Source: Statistics Iceland.

Chart 19

Unemployment and labour participation[1]
January 1996 - February 2007

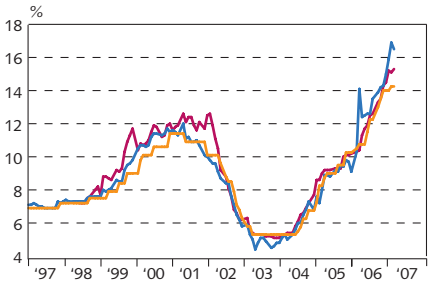


1. Statistics Iceland's labour market survey 1996-2006.
Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Chart 20

Short-term interest rates
January 1997 - February 2007

At end of month

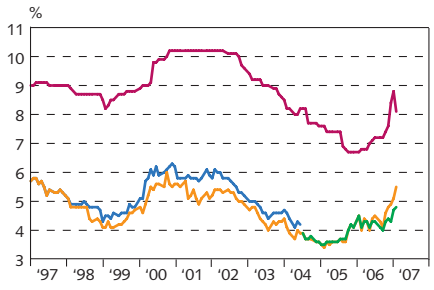


Source: Central Bank of Iceland.

Chart 21

Long-term interest rates
January 1997 - February 2007

At end of month

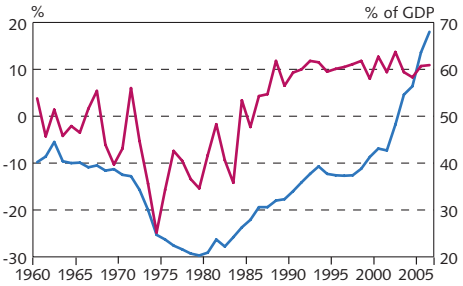


Source: Central Bank of Iceland.

Chart 22

Real yield and broad money 1960-2006[1]

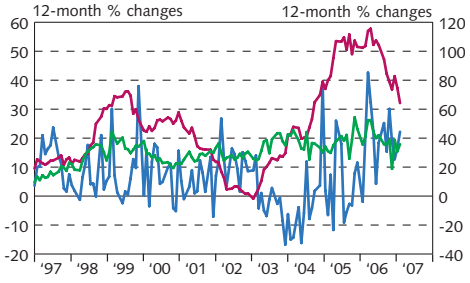
Real yield on non-indexed bank loans and
M3 as percent of GDP



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

Chart 23

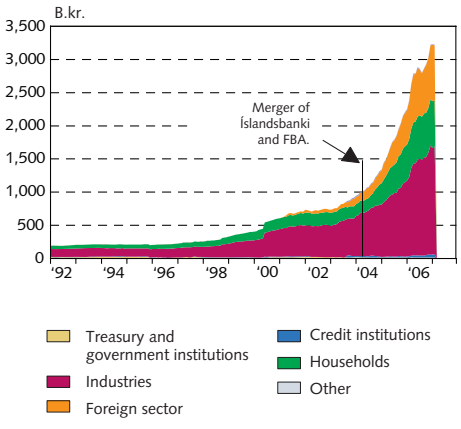
M3, DMB lending and base money
January 1997 - February 2007[1]



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

Chart 24

Deposit money bank lending by sector
January 1992 - February 2007[1]

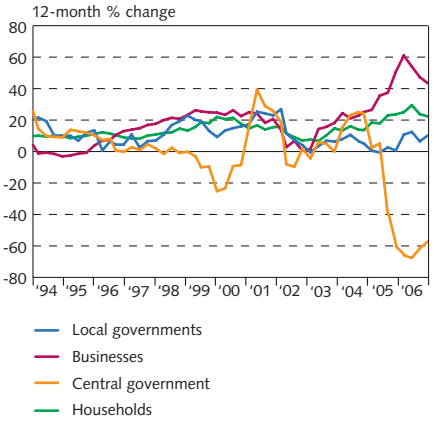


1. Reclassification of lending in September 2003 based on the ÍSAT-95 standard led to a reduction in household debt figures and an increase in business and municipalities' debt figures. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 25

Growth of credit system lending 1994-2006

Lending by sectors[1]

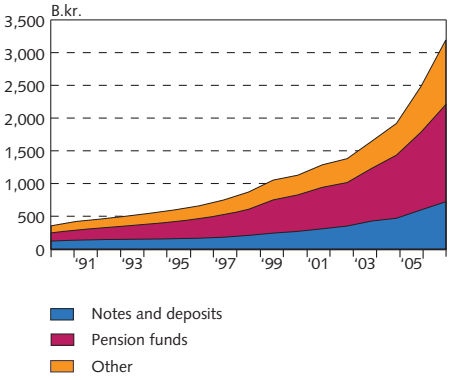


1. Reclassification of lending in September 2003 based on the ÍSAT-95 standard led to a reduction in household debt figures and an increase in business and municipalities' debt figures. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 26

Credit system liabilities at end of year 1990-2006[1]

At current prices

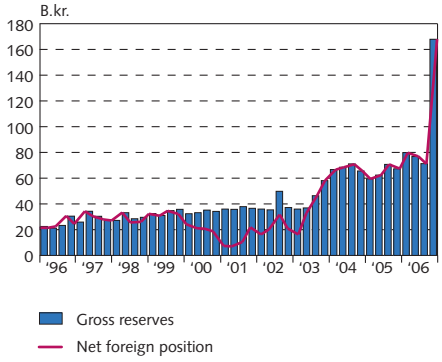


1. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 27

Reserve assets and Central Bank net foreign position, Q1/1996 - Q4/2006[1]

At current exchange rates



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