MONETARY BULLETIN

2007•2

Contents

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

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

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

The framework of monetary policy, its implementation and instruments are described in the Chapter on Monetary policy and instruments on pp. 75-77 of this edition of *Monetary Bulletin*.

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The Central Bank of Iceland, Kalkofnsvegur 1, 150 Reykjavík, Iceland
Tel: (+354) 569 9600, fax: (+354) 569 9605
E-mail: sedlabanki@sedlabanki.is
Website: www.sedlabanki.is

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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 at 13.3%.[1] Inflation has declined more slowly than the Central Bank forecast at the end of March 2007, even though the króna has been stronger than expected. Headline inflation is currently 4%, but underlying inflation is estimated at 6%. The inflation outlook until 2008 has deteriorated since the March forecast and the inflation target will probably be attained later than assumed then even if the policy rate is left unchanged for longer. The current forecast indicates that it will not be possible to lower the policy rate until the first half of 2008, if reasonable prospects are to be created for moving close to the target that year and fully attaining it early in 2009. As before, the policy rate path in the baseline forecast does not represent a statement or commitment on the part of the Board of Governors. However, it does provide an important indicator of the policy rate needed, other things being equal, if the target is to be attained within the forecast horizon.

Two broad considerations underlie the decision by the Board of Governors to leave the policy rate unchanged in the face of a poorer inflation outlook. First, the policy rate is already high and has had a growing impact on both nominal and indexed bond yields. The monetary policy statement and the policy rate path published in *Monetary Bulletin* in March therefore seem to have had the intended effect. Since March, the króna has also appreciated by more than was forecast. At its present level, the policy interest rate exerts considerable constraint on inflationary pressures. Nonetheless, the economy has been unexpectedly vigorous this year. Although the national accounts for Q1/2007 suggest that domestic demand has eased, most other indicators – the labour, housing and equity markets, confidence and business sentiment indices, lending, retail turnover, payment card turnover and underlying inflation – point in the opposite direction. Growth is robust on all these fronts and in some cases increasing. Thus the tight stance will have to be maintained for longer than was previously assumed.

Alternative scenarios and the risk profile for the forecast also show higher probability that inflation will exceed the forecast than fall below it. As before, the exchange rate of the króna is the greatest potential risk. Strong domestic demand has prevented the appreciation of the króna in recent months from being reflected in a lower rate of inflation. The real exchange rate of the króna is very high

1. From now on, the Central Bank's policy rate is presented as a nominal discounted rate, instead of annual yield; a 13.3% nominal rate corresponds to the 14.25% annual yield quoted hitherto for the Bank's regular collateral loan facilities. The change of presentation was announced in Central Bank of Iceland press releases No. 9/2007 on May 16 and No. 12/2007 on June 18, 2007.

again, increasing the probability of an eventual depreciation. This risk is reflected in the baseline forecast and its risk profile. Households are now eagerly borrowing in low-yielding currencies. There is a danger that they underestimate the inherent risk. In Q1/2007 the current account deficit was much smaller than had been forecast, but after adjustment for irregular items it is still far from sustainable. In recent months the króna has appreciated in pace with other high-yielding currencies, a sign of its sensitivity to changes in global financial market conditions. The Central Bank does not attempt to manage the exchange rate. However, it may need to respond to the impact of exchange rate movements on inflation and inflation expectations.

In the forecast presented in the current *Monetary Bulletin*, inflation moves very close to target in the second half of 2008 and the target is attained before mid-2009. Due to lags in monetary policy transmission, a substantially higher policy rate would have been required in order to attain the target slightly sooner. The benefits of doing so do not justify the economic cost that it would have entailed. However, the Board of Governors will take measures if the inflation outlook deteriorates markedly from the current baseline forecast. Similarly, it will respond if prospects improve. A tight fiscal stance definitely reduces the likelihood that the inflation outlook will worsen. Given the strong inflationary pressures apparently still at work in the economy, it would be very misguided to ease the fiscal stance now. Greater expenditure restraint will enable the policy rate to be lowered sooner. Changes in the status and lending policies of the Housing Financing Fund operate in the same direction. The reduction in the Fund's maximum loan-to-value ratio, which was announced on July 3, represents an important first step.

Among the assumptions behind the baseline forecast is a 17% cutback in the cod quota. No new quota has been announced yet, but the impact of it and related measures will be assessed in the Board of Governors' later policy rate decisions.

The next policy interest rate decision by the Board of Governors of the Central Bank will be announced on September 6.

Economic and monetary developments and prospects[1]

Slow disinflation process will delay policy rate cuts

Inflation has declined more slowly than the Central Bank of Iceland forecast at the end of March 2007, even though the real exchange rate has been higher than expected at that time. Underlying inflation – i.e. excluding volatile items and changes in public services prices, indirect taxes and mortgage rate payments – has decreased by much less than headline CPI inflation over the past year. At the beginning of June, underlying inflation was estimated at above 6%, while headline inflation was 4%. Current indicators of demand are also difficult to interpret, partly due to irregularities stemming from the strong base effect of exchange rate movements a year before. In spite of the tight monetary stance, economic activity appears to have picked up in recent months. After a slight dip shown in national accounts figures for Q1/2007, private consumption seems to have rallied in Q2. Rapid employment growth also indicates brisker first-quarter activity than preliminary data imply. The real estate market has been buoyant as well, fuelled by substantial growth in both disposable income and credit supply in recent months. Favourable global conditions have bolstered high-yielding currencies. In real terms the exchange rate of the króna is very high, especially if measured in terms of relative unit labour costs. This increases the likelihood that the króna will depreciate in the long run, as does the wide current account deficit. Although the current account deficit proved much smaller in Q1/2007 than forecast in March, it appears unlikely to end up much lower for the year as a whole. Uncertainties about the balance on income make the underlying current account trend difficult to discern. The inflation outlook one year ahead has deteriorated from the Central Bank's March 2007 forecast. In order to bring inflation to target within an acceptable horizon, it now appears necessary to keep the policy rate unchanged for longer than was expected in March.

I Inflation outlook and monetary policy

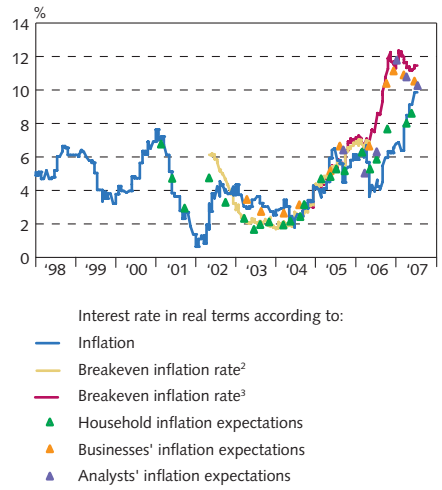
At the beginning of June inflation measured 4%, after slowing down in recent months. However, much of the disinflation has been driven by changes in indirect taxes and other temporary factors that are normally ignored in monetary policy decision-making. Underlying inflation is considerably higher, at above 6%. This is a high rate of inflation given the strong appreciation of the króna over the past few months, and significantly higher than in the last Central Bank forecast in March. The outlook for 2008 is that inflation will remain some way above the March 2007 forecast, even if the policy rate is not cut as quickly as assumed then. Providing that the policy rate is kept high for longer than was assumed in March, however, the long-term inflation outlook is broadly in line with that forecast, as described below.

Unwinding of imbalances will be delayed for a while

Recent economic indicators are difficult to interpret. The national accounts show zero output growth in Q1/2007, in spite of hefty growth of exports. There was a contraction in private consumption and, in particular, investment. However, to a large extent this outcome is the result of volatile items such as aircraft transactions. First-quarter figures must also be qualified by a strong base effect, i.e. the surge in growth a year before when private consumption rose by 11.5% year-on-year and investment by 36%. In a long-term context,

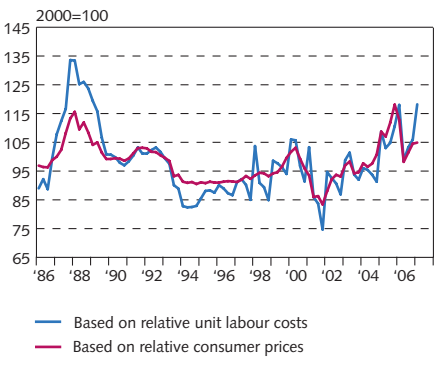
1. This article uses data available on July 3, 2007 but the forecast is based on data until June 19.

Chart I-1
Central Bank policy interest rate in real terms[1]
Weekly data January 7, 1998 - July 3, 2007



1. Policy rate has been converted to annual yield. 2. Spread between RIKB 13 0517 and RIKS 15 1001. 3. 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-2
Real effective exchange rate of the króna
Q1/1986 - Q1/2007



Source: Central Bank of Iceland.

therefore, domestic demand is still buoyant. It is also important to qualify the national accounts data with other indicators, e.g. developments in the labour and housing markets, which indicate that demand growth in Q1 was stronger than suggested by the national accounts and gained pace in Q2. Wage drift appears to be increasing, despite a heavy inflow of migrant labour. Also, the slow rate of disinflation over recent months, in spite of the strengthening of the króna, also signals robust demand, which may well have been greater in 2006 than preliminary figures from Statistics Iceland indicate.

Most of the above indicators would seem to imply that the adjustment described in the last *Monetary Bulletin* in March will be delayed for a while longer. The question is whether the recent upswing is driven by temporary factors such as the general election in May and global market conditions, or whether the current conditions will be sufficiently long-lasting to require a firmer monetary policy response. While it would be premature to draw firm conclusions at this stage, there is every reason to be alert to this development and make a careful appraisal of whether the current stance is sufficiently tight.

Monetary stance is tight, but not as tight as expected in March

The real policy interest rate is high by all measures. However, inflation expectations have built up in recent months, except among households. This development reflects higher than expected inflation over this period. Higher inflation expectations entail a lower real policy rate than forecast in the last *Monetary Bulletin* in March. High household inflation expectations have moderated somewhat, however. Generally speaking, the transmission of monetary policy across the yield curve has been fairly smooth recently. Medium-term bond yields have risen sharply since *Monetary Bulletin* was published. A likely cause has been the Central Bank's decision to publish the policy rate path that its staff deem sufficient to rein inflation in to target within an acceptable horizon, although global interest rates have also risen. Interest rates on indexed bank lending have also gone up, while the Housing Financing Fund (HFF) has largely avoided raising its rates by funding its lending with bond issues at the longest maturities that it offers. The banks have responded to their eroding competitive position vis-à-vis the HFF by focusing more closely on foreign currency-denominated lending. A large share of these loans has been in low-yielding currencies, particularly the yen and Swiss franc. Households and businesses have thus temporarily side-stepped the tightening represented by high short-term interest rates, at the expense of increased interest rate risk and currency risk.

The króna and other high-yielding currencies have been extremely strong over the past few months and interest rates in currencies that are popular for borrowing at present are exceptionally low. Thus the currency risk is high, and compounded by the inherent interest rate risk in variable interest rates. Debt service on these instruments could easily double, judging from historical experience. Some borrowers are likely to underestimate the risks entailed by variable interest rates in a weak currency, if they are unusually low at the same time as the real

exchange rate of the króna is probably well above long-term equilibrium and the likelihood of short-term overshooting of the exchange rate is significant. Growing demand for foreign currency-denominated loans partly offsets the tightening monetary stance in the short run and could amplify the contraction of credit during downturns.

Publishing the policy rate path has been effective

In this edition of *Monetary Bulletin*, the Central Bank presents its second macroeconomic and inflation forecast based on the policy rate path that the Bank's staff estimates as being compatible with the inflation target. The policy rate path is chosen with the aim of bringing inflation to 2½% within an acceptable horizon and stabilising it close to that target afterwards. Confidence limits are presented for the policy rate to underline the uncertainties surrounding the forecast. 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.

Publication of the policy rate path in the March *Monetary Bulletin* appears to have substantially affected market expectations about monetary policy. Forward rates and expectations among market and analysts have moved into much closer alignment with the policy rate path forecast in March than they were before the path was published (see Chart III-2 on p. 15). Greater transparency therefore appears to have strengthened the transmission of monetary policy along the yield curve, which was the aim of the exercise.

Chart I-3
Baseline scenario in *Monetary Bulletin* 2007/2
Forecasting period: Q2/2007 - Q1/2010

Chart I-3a
Policy rate

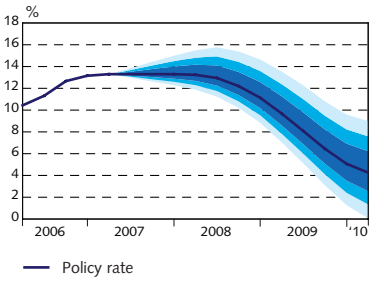


Chart I-3b
Effective exchange rate

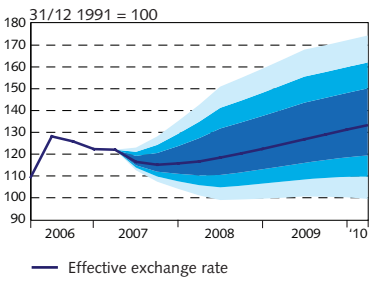


Chart I-3c
Output gap

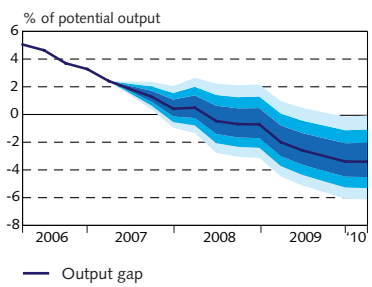
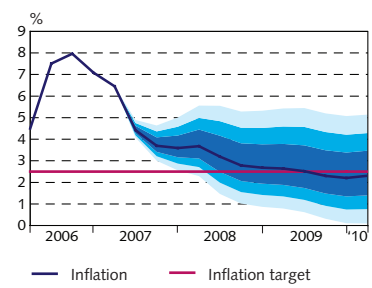


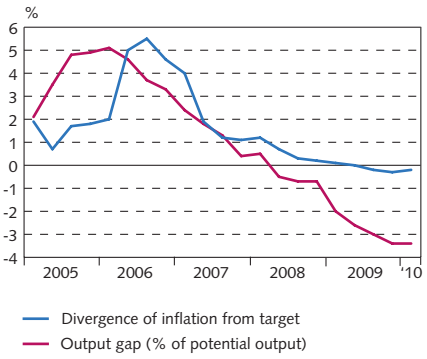
Chart I-3d
Inflation



50% confidence interval 75% confidence interval 90% confidence interval

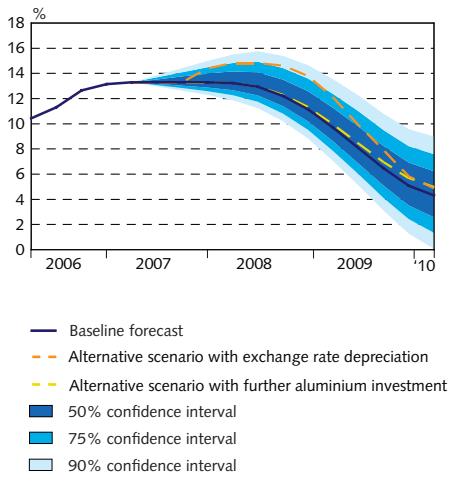
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-4
Divergence of inflation from target and output gap



Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-5
Policy rate – alternative scenarios



Source: Central Bank of Iceland.

Slower disinflation in 2007 and a tighter policy rate path

When the Central Bank appraised the inflation outlook in March, it concluded that the policy rate, which since December 2006 had remained unchanged at 13.3% (stated in the Central Bank's new presentation as a nominal discounted rate; this corresponds to an annual rate of return of 14.25%, the figure quoted in Central Bank interest rate announcements until June 2007), would suffice to bring inflation to target this year, or in 2008 if the effect of cuts in indirect taxes is excluded. It now appears obvious that this process will not take place as quickly as had been expected.

Chart I-3 summarises the main forecast findings. It shows that, in order to attain the inflation target within an acceptable horizon, the policy rate path will need to be somewhat tighter than was assumed in March. This could be achieved by raising the policy rate over the entire horizon or by maintaining a high rate for longer than was expected in the March forecast. Even so, inflation looks set to be considerably higher in 2008 than in the March forecast, when the target was expected to be attained in Q3/2007, based on headline inflation, which now seems highly unlikely. It would at least require a very sharp hike in the policy rate, given that the full transmission to inflation would take one to two years. By maintaining a high policy rate for longer, the current outlook is that inflation will be close to target at the end of 2008, both for the headline rate and if the tax effect is excluded.

The main cause of the upward revision of the March inflation forecast for the next few months lies in the marked upswing in the housing market. This explains higher inflation at the start of the forecast horizon than in March. Moreover, house prices are now considered less likely to fall in the coming quarters. Offsetting this, the króna is stronger than was assumed in the March forecast. Although the effect has been unexpectedly subdued, the recent strong currency will keep the lid on price increases over the coming months, even if the króna weakens slightly again. In the long run, the current high real exchange rate makes a faster depreciation more likely. The narrowing interest rate differential with abroad following global interest rate hikes also contributes to this scenario. These two considerations are reflected in a rather steeper exchange rate path than in the March forecast.

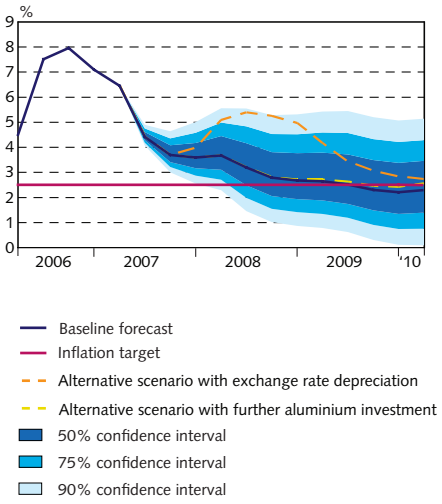
A higher initial inflation rate, poorer outlook for inflation and inflation expectations over the first part of the horizon, a correspondingly lower real policy rate and a faster depreciation of the króna all call for a higher policy rate to create sufficient slack to counteract them. This is done in the forecast by delaying the reduction in the policy rate that was assumed in the March forecast. In fact, domestic demand will contract by less than previously forecast because of the initially lower real policy rate, and more of the economic adjustment will take place through the exchange rate and net trade.

Continued upside risk to the inflation forecast

Section IX on pp. 35-42 discusses uncertainties in the inflation forecast. As in the March forecast, the probability of inflation being above the central path of the baseline forecast is considered to be higher than the probability of inflation being below it. This indicates that a

tighter monetary stance than assumed in the baseline forecast path could be required. Once again, the main uncertainties are exchange rate developments and large potential investment projects, which are reflected in two alternative scenarios (see Charts I-5 and I-6). In the first scenario a comparable depreciation to the March alternative scenario is assumed, but one quarter later. The latter scenario depicts the effects of investment in a new aluminium plant in Helguvík. The March alternative scenario also assumed that the Alcan smelter in Straumsvík would be expanded. The impact is therefore considerably weaker now. The results of the alternative scenarios are reflected in the confidence limits for the inflation, exchange rate, output gap and interest rate paths. In particular, substantially more negative exchange rate developments could force the policy rate to be raised further and kept higher for longer. As discussed in previous editions of *Monetary Bulletin*, the króna can be highly sensitive to changes in the global financial market outlook. International bond rates have been climbing without provoking any depreciation of the króna yet. The króna is bolstered by the fact that Iceland's domestic short-term interest rates are currently among the highest in the world.

Chart I-6
Inflation – alternative scenarios



Sources: Statistics Iceland, Central Bank of Iceland.

Large and persistent deviations from target can undermine confidence in monetary policy

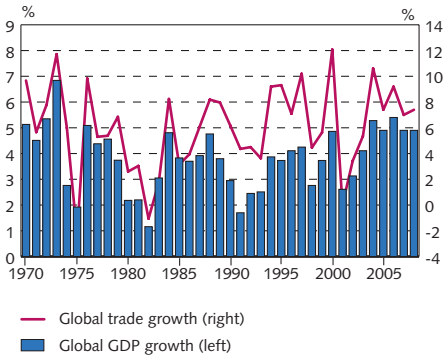
The Central Bank's inflation target is to aim for an inflation rate of close to 2½% over the medium term, measured in terms of the twelve-month increase in the CPI. The target is flexible insofar as it is not assumed that the Central Bank can always keep inflation on target, but the Bank is obliged to ensure that deviations are neither systemic nor persistent. It is left to the discretion of the Central Bank how to interpret and respond to deviations, but strong requirements are made for monetary policy transparency and adherence to the target over the medium term.

Inflation has now been consistently above target since May 2004. Since Iceland adopted the inflation target in March 2001 inflation has ranged between 1.5% and 9.4%, and measured 4.7% on average. A large and persistent deviation from the target, as witnessed over the past three years, inevitably undermines confidence in monetary policy and causes expectations of persistent inflation to become entrenched. The longer this situation prevails, the more urgent it is for inflation to be brought to target as soon as possible. It should be underlined that a rate of inflation that is in line with the target on average can temporarily rise above or fall below it. In the current baseline forecast, inflation dips below target in late 2009. However, the deviation will be very modest and short-lived. Furthermore, given the risk profile of the forecast, there is a significant probability that the policy rate will need to be raised in order to prevent inflation from exceeding the target. In light of how entrenched inflation has been over the past few years, the risk of inflation above target is much more serious than a temporary undershoot. For this reason, the Central Bank will strongly emphasise maintaining inflation close to the target over the medium term, notwithstanding temporary over- and undershooting of the target, e.g. in connection with exchange rate volatility.

II External conditions and exports

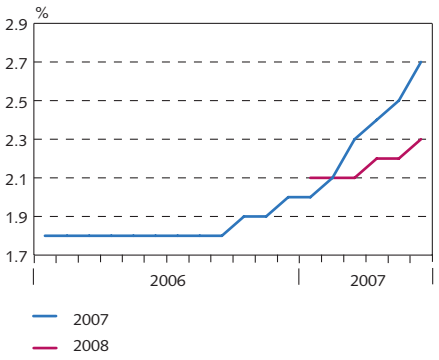
The outlook for external conditions has not changed much since the last *Monetary Bulletin* was published in March. However, the economic outlook is more solid in that growth is spread across more countries than before. Expectations that the contraction in the US housing market could infect other sectors, and eventually depress the global economy, have also waned. In April, the IMF forecast global growth of 4.9% in 2007, but recent indicators imply that it will be considerably greater. The current growth episode of four successive years is the longest since the early 1970s (see Chart II-1). The risk of higher global inflation appears to have increased, judging from wage developments in the euro area, ample liquidity in capital markets and rising oil prices, among other factors. Global interest rates have gone up as a result and will probably rise faster than previously forecast. Iceland's external debt service will therefore increase and the narrowing interest rate differential could put pressure on the króna.

Chart II-1
International economic developments 1970-2008[1]
Global GDP and trade, change on a year earlier



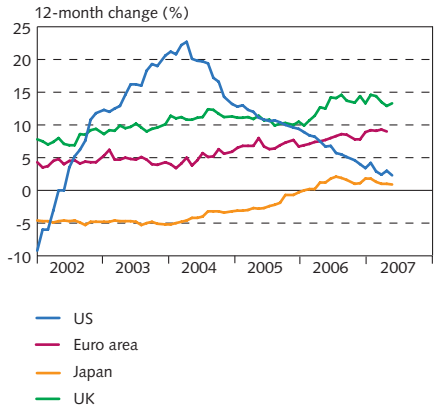
1. Data for 2007-2008 are IMF forecasts.
Source: IMF.

Chart II-2
Output growth forecast for euro area 2007 and 2008[1]



1. Time axis shows month of forecast.
Source: Consensus Forecasts.

Chart II-3
Growth of DMB lending



Source: Reuters EcoWin.

Stable growth outlook in the euro area

Annual growth in the euro area in Q1/2007 was 3%, up 0.8 percentage points year-on-year. Main drivers of GDP growth were increased private consumption and government expenditure and a surge in investment. Growth forecasts for the current year have been revised sharply upwards in recent months. According to Consensus Forecasts (June 11, 2007) growth will reach 2.7% in 2007 but slow down again in 2008 (see Chart II-2).

Despite hikes in the European Central Bank's minimum bid rate in March and again in June, the monetary stance in the euro area is still on the accommodative side. Growth in M3 (see Chart II-4) and lending (see Chart II-3) has gained pace so far this year. Unemployment fell in April for the sixth consecutive month. It has now dropped by 0.9 percentage points year-on-year to the lowest level since harmonised measurements were introduced in 1993. CPI inflation and core inflation have been relatively stable in recent months at around 1.9%. However, if unemployment continues to fall, wage pressure could increase that could ultimately fuel inflation.

US output growth declined in Q1/2007

According to preliminary data, output growth in the US dipped markedly in Q1/2007. Annualised GDP growth measured only 0.7% from the previous quarter. Year-on-year growth, at 1.9%, has not been lower since mid-2003. Slower growth can mostly be attributed to unfavourable merchandise trade developments and a contraction in government expenditure and residential investment. Growth is expected to pick up later in the year. Robust first-quarter corporate profits imply considerable scope for increased investment, which could reduce unemployment further. Likewise, the weakening of the dollar over recent months should bolster export growth and dampen imports. Consensus Forecasts expect 2.1% GDP growth over the whole of 2007, rising to 2.9% in 2008. US inflation has been on the

increase over the year to date. If energy costs are excluded, however, it has remained fairly stable at close to 2½%.

Stable outlook in the UK and Nordic countries

Output growth remained strong in the UK in Q1/2007, although fractionally less than in 2006. For the first time, inflation breached the Bank of England's target limits in March when it measured 3.1%, but fell back to 2.5% in April and May. The Bank of England raised its bank rate by 0.25 percentage points in May and kept it unchanged in June, but further hikes are considered likely.

In the Nordic countries, the economic outlook is broadly stable. Output growth increased year-on-year in Finland and Norway in Q1/2007, but slowed down in Denmark and Sweden. So far in 2007, inflation has been slower in all the countries apart from Finland. The largest drop has been in Norway, where inflation measured only 0.3% in May, largely due to lower electricity prices.

Hefty growth in China but Japan is still tackling deflation

There are still no signs of a slowdown in the Chinese economy. Output growth measured 11.1% in Q1/2007. In the past few months the Chinese authorities have tried to smother overheating of the economy by raising interest rates, reserve requirements for credit institutions and taxes on equity transactions.

The economic situation in Japan is continuing to improve, although the deflationary episode is not over for certain. Domestic demand has remained fairly stable and exports are still one of the main drivers of output growth, which measured 2.2% in Q1/2007. After increasing until after mid-2006, inflation began to decrease again. So far this year it has been around zero.

Weaker demersal catches over the first five months of 2007

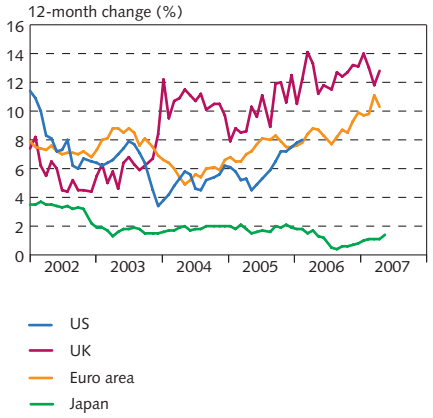
The total fish catch for the year to date amounts to 765 thousand tonnes, up 6% year-on-year. All of the increase is accounted for by an extra 65 thousand tonnes of pelagics, while the demersal harvest contracted by 17 thousand tonnes. The reduced catch of demersal species, which are more valuable, cut total catch value over the first five months of 2007 by 3% year-on-year, measured at constant prices. In foreign currency terms, marine export value was up by more than 10% year-on-year in the period January-April, largely due to an 8% increase in marine export prices. Unfished quotas at the end of May were roughly one-quarter more than a year before but are expected to be used in the coming months. Other things being equal, the landed catch this summer will therefore exceed that at the same time in the previous fishing year.[1]

Marine product prices still rising

Marine product prices have increased beyond the forecast made in *Monetary Bulletin* in March. At the end of April, the twelve-month

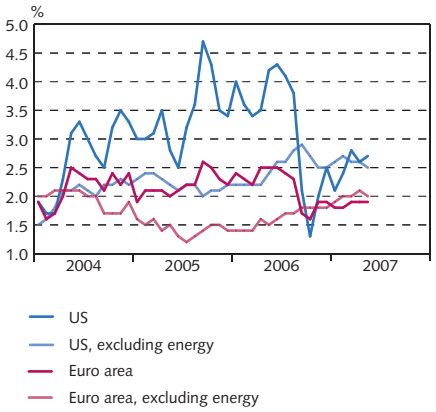
1. The fishing year is from September 1, 2006 to August 31, 2007.

Chart II-4
Growth of M3
January 2002 - May 2007



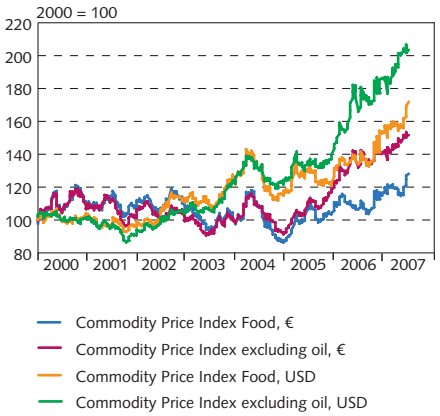
Source: Reuters EcoWin.

Chart II-5
Inflation in the US and euro area
January 2004 - May 2007
Inflation including and excluding energy prices



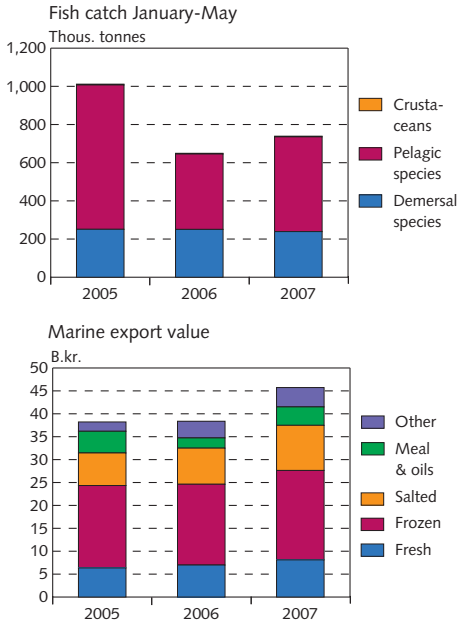
Source: Reuters EcoWin.

Chart II-6
World market commodity prices
Weekly data January 7, 2000 - June 22, 2007



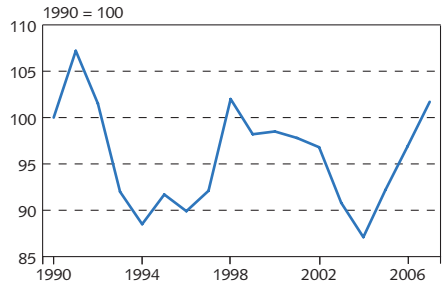
Source: Reuters EcoWin.

Chart II-7
Fish catch and marine export value



Sources: Directorate of Fisheries, Statistics Iceland.

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 May 2007.
Source: Statistics Iceland.

increase, measured in foreign currency, was more than 12% for marine products as a whole, and just under 8% for demersal species. Prices of meal and oil have climbed most sharply over this period, by 57%, while land-frozen demersals, fresh fish and saltfish products have also risen briskly. Conditions are favourable in almost all markets for demersal products. Iceland's competitive position has been strong and demand robust, as overall supply has contracted.[2] There are no indications that these conditions will unwind in the near future, but high prices naturally pose a risk that consumers will switch to cheaper competing goods. Commodity indices for food have risen steadily in recent times. The food index has risen by 23% over the past twelve months in US dollars, and by 17% in euros. In an informal survey towards the end of the winter, Icelandic market agents did not foresee further price rises over the coming months. Now, however, they expect increases again. In the macroeconomic forecast, marine product prices are assumed to rise by 7% year-on-year in 2007, but rather more modestly, by 3.7%, in 2008.

Smaller cod catch likely in the next fishing year

The outlook for Iceland's main demersal species is bleak. One main finding of the recent Marine Research Institute (MRI) report *The State of Marine Stocks 2006/2007* is that the cod stock has deteriorated sharply in recent years. Strong indications have emerged that the cod spawning stock off Iceland is dangerously small. The report also states that quotas for haddock, redfish and saithe need to be cut, in response to stock conditions. For the next fishing year, the MRI recommends cutting the cod quota by one-third, haddock by almost 10%, saithe by 25% and golden redfish by close to 40%. If these recommendations are followed, the contraction in catches of main demersal species will leave marine export value 22 b.kr. lower than otherwise in the calendar year 2008, and 5-6 b.kr. down in 2007. The Minister of Fisheries has not yet set the quota for the next fishing year, but in light of the MRI recommendations, a substantial catch reduction can only be expected. The current macroeconomic forecast assumes that the cod quota will be cut by 17%. Other demersal quotas are assumed unchanged from the current fishing year.[3]

Oil prices will remain high but aluminium prices will probably unwind over the next two years

Oil prices have risen since January and the average price in mid-June was roughly 12% above the average for December 2006. Futures

2. Catches of main North Atlantic demersal species are expected to end up 3% lower in 2007 than in 2004. The drop is particularly marked for the most valuable species: cod, haddock and flatfish. The cod catch is forecast to contract by 15% and redfish by 15%, while haddock will increase by 7% and saithe by 24%. By comparison, seafood consumption grew by 6% in 2006 in the UK, Iceland's largest market for marine products.

3. The macroeconomic forecast published in *Monetary Bulletin* in March assumed that marine export volume would grow by 4% in 2007 and remain unchanged in 2008. Incorporating the above cutbacks, volume is now expected to increase by 1% in 2007 but shrink by 6% in 2008. As ever, these assumptions are fraught with uncertainties; the capelin stock is highly uncertain and annual catch levels are highly volatile. Capelin will be a crucial determinant of catch value and export volume in 2008.

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

	Current forecast[1]			*Change from previous forecast (percentage points)*[2]		
	2007	*2008*	*2009*	*2007*	*2008*	*2009*
Exports of goods and services	12.0	9.5	5.5	2.4	-7.2	1.0
Marine production for export	1.0	-6.0	0.0	-3.0	-6.0	0.0
Metals production for export	61.9	61.2	1.0	-13.0	11.6	0.2
Export prices of marine products	7.0	3.7	2.5	1.6	0.7	0.5
Aluminium prices in USD[3]	10.0	-3.5	-3.0	-3.3	22.3	22.0
Foreign fuel prices4[4]	2.9	8.2	-1.0	8.2	1.3	-1.3
Terms of trade for goods and services	-0.1	0.6	0.0	-4.2	9.0	6.6
Global inflation[5]	1.8	1.9	1.9	-0.1	0.0	0.0
Global GDP growth	2.7	2.4	2.4	0.3	0.0	-0.1
Foreign short-term interest rates[6]	4.4	4.6	4.7	0.3	0.6	0.7

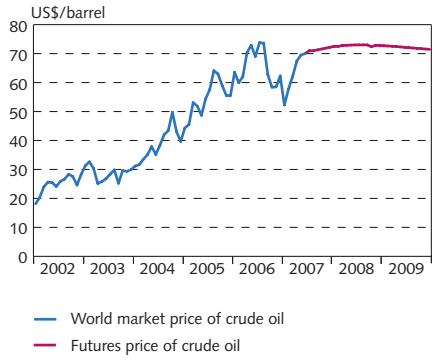
1. Percentage change year-on-year, except for interest rates. 2. Change since *Monetary Bulletin* 2007/1. 3. Based on aluminium futures. 4. Based on fuel futures. 5. *Consensus Forecasts*. 6. Based on weighted average forward interest rates of Iceland's main trading partner countries.

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

indicate that spot prices for oil will increase over the course of 2007 and into 2008. Fuel prices can therefore be expected to remain high for the next two years. One reason for this development is that OPEC has not agreed to step up production to match unexpected demand growth. Extra production by non-OPEC countries has also been less than expected. Oil prices in 2007 are therefore forecast to end up 3% higher than the 2006 average, rising by a further 8% in 2008 and then near-flattening in 2009.

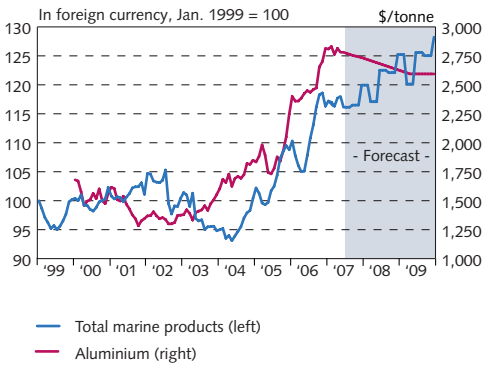
Aluminium prices have surged in recent years and have doubled since 2002. The main driver of prices has been spiralling demand in Asia, especially China and India. Over the first months of 2007, fundamentals in the aluminium market changed. The market position flipped over from demand-driven to supply-driven. In Q1/2007, global production rose by 12% year-on-year but demand by 9.5%. As a result, futures prices for 2008 and 2009 plunged in February. The main reason for the turnaround from excess demand to a glut of supply was massive production growth in China, at an annualised rate of 40% or more in recent months. The production deficit has returned over the past two months and the gap between stocks and consumption has narrowed. Demand for aluminium is currently strong or growing in most countries, except the US. This situation is expected to prevail until at least the end of the year. Demand is buoyant from the car and construction industries in Europe and Japan, and from stepped-up manufacturing of aircraft and consumer durables. Futures prices suggest that aluminium prices will dip slightly in the first half of 2008, then head downwards for the rest of that year and 2009. Some analysts predict that ongoing strong demand growth, coinciding with slower growth of Chinese aluminium production, will drive prices up again in 2010. The current macroeconomic forecast assumes that average aluminium prices in 2007 will be 10% higher than in 2006, then slip by 3.5% in 2008 and 3% in 2009. In the previous macroeconomic forecast in *Monetary Bulletin* in March, on the other hand, prices were expected to drop by a much steeper 25% each

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



Sources: Bloomberg, NYMEX, Reuters EcoWin.

Chart II-10
Prices of marine exports and aluminium



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

year in 2008 and 2009, reflecting the latest futures prices at that time. Thus the terms of trade will not deteriorate by as much as forecast in March. Instead of turning downwards in 2007 and the following two years, the terms of trade for goods and services are now expected to remain broadly unchanged across the forecast horizon.

III Financial conditions

The presentation of the policy rate forecast in *Monetary Bulletin* in March appears to have had the intended effect on market expectations about the policy rate. They have moved very close to alignment with the policy rate path forecast in March. Increased communication appears to have enhanced transmission of monetary policy across the yield curve and boosted its effectiveness. Measured by the real policy rate in terms of past inflation or household inflation expectations, the monetary stance has tightened, but it has eased slightly if the real rate is measured on the basis of the breakeven inflation rate on four-year Treasury notes. Higher inflation than was forecast in *Monetary Bulletin* in March has led to a downward revision of the real policy rate forecast for this year. Yields on indexed Housing Financing Fund (HFF) bonds have remained high since the government announced planned cuts in indirect taxes. This has not been reflected in HFF mortgage lending rates, which have only been raised slightly since the announcement. Policy rate hikes are likely among Iceland's main trading partner countries in the near future, on the back of sizeable increases in recent months. Medium- and long-term interest rates have risen considerably since March. Foreign interest rates are affecting the Icelandic economy more as carry trade volume grows, and the share of foreign currency-denominated credit in total household borrowing has increased. The króna has appreciated over the year to date. Expectations that the policy rate will be kept high for longer than previously assumed have probably contributed to this trend. As often before, however, movements in the króna have tracked those of other high-interest currencies such as the New Zealand dollar, which indicates that conditions in global financial markets have been a strong factor at work.

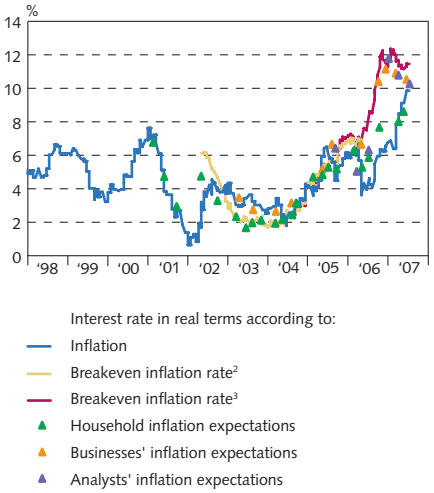
Slowdown in inflation leaves policy rate higher in real terms

The policy rate has been unchanged since December 2006. Measured against past inflation, the real policy rate has risen by almost 2 percentage points since the March *Monetary Bulletin*. An important factor has been the temporary dip in inflation due to cuts in indirect taxes. The real policy rate has also risen slightly in terms of household inflation expectations, but gone down relative to the breakeven inflation rate on four-year Treasury notes. Market agents' inflation expectations softened after the government's tax cuts were announced. Inflation has not decreased as fast as expected, however, which has caused bond market and business expectations to rise again.

Presentation of the policy rate path appears to enhance monetary policy transmission

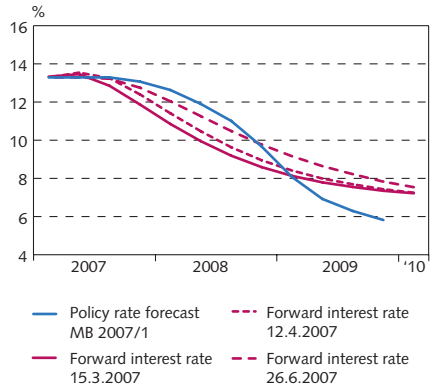
In recent years, market agents' expectations about the policy rate path have diverged quite widely from the Central Bank's view. At the beginning of 2007, however, they moved closer into line, when distortions in forward rates, which had been caused by glacier bond (króna-denominated Eurobond) issuance and other effects, began to diminish. *Monetary Bulletin* in March contained the first policy rate

Chart III-1
Central Bank policy interest rate in real terms[1]
Weekly data January 7, 1998 - July 3, 2007



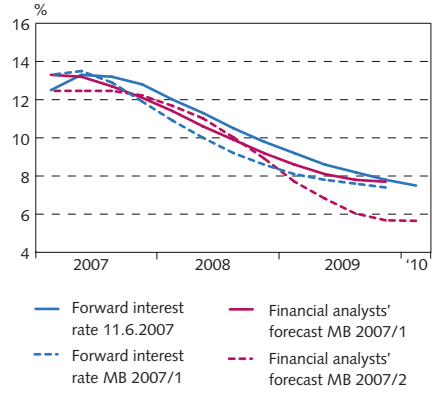
1. Policy rate has been converted to annual yield. 2. Spread between RIKB 13 0517 and RIKS 15 1001. 3. Spread between RIKB 13 0517 and HFF150914. Household, business and analysts' inflation expectations are based on inflation one year ahead.
Source: Central Bank of Iceland.

Chart III-2
Expected Central Bank policy rate based on forward interest rates and policy rate forecast in MB 2007/1
Q1/2007 - Q1/2010



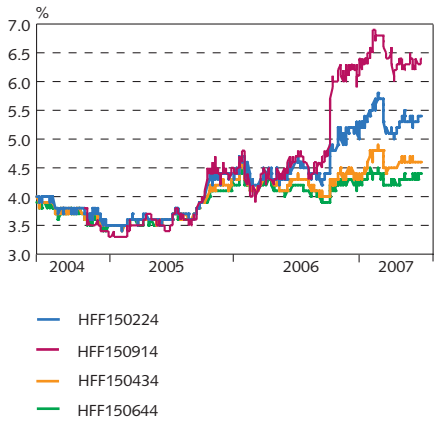
Source: Central Bank of Iceland.

Chart III-3
Expected Central Bank policy rate based on forward rates and analysts' projections
Q1/2007 - Q1/2010



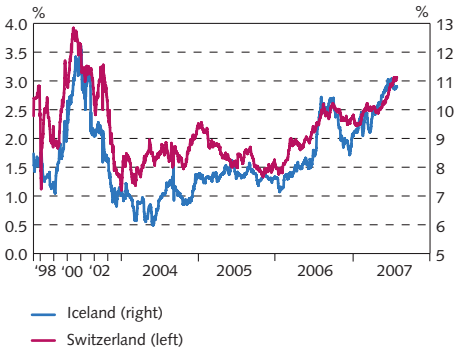
Source: Central Bank of Iceland.

Chart III-4
HFF bond yields
Daily data July 8, 2004 - July 3, 2007



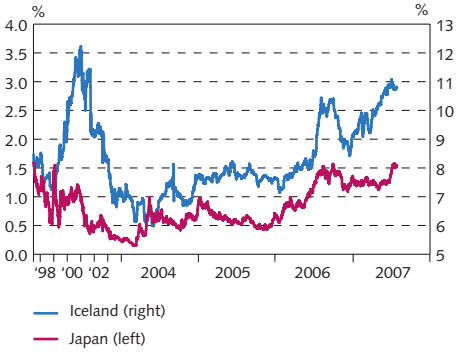
Source: Central Bank of Iceland.

Chart III-5
Yield on 5-year Treasury bonds
in Iceland and Switzerland
Daily data July 9, 1997- July 3, 2007[1]



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

Chart III-6
Yield on 5-year Treasury bonds
in Iceland and Japan
Daily data July 9, 1997- July 3, 2007[1]



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

forecast by Central Bank staff. Although experience of this arrangement is limited for drawing firm conclusions, developments in recent months indicate that the Central Bank has succeeded in delivering a clearer monetary policy message. Market expectations about the policy rate path that are implied in forward rates have recently been broadly in line with the policy rate path in the Central Bank's March baseline forecast. Beyond a two-year horizon they diverge, however. Market agents now expect the policy rate to be kept fairly high for longer than in the March baseline forecast. The probable reason is that they expect new investments in the aluminium and power sectors, which were not included in the baseline forecast assumptions. In such an event, the policy rate path in the alternative scenario that includes aluminium investments may be more closely comparable (see Box IX-2 on p. 40).

After mid-2008, analysts apparently expect the policy rate to be considerably lower than forward rates would imply, which is the first time they have done so since the Central Bank began its surveys. The analysts' forecast hardly diverges from the policy rate path in *Monetary Bulletin* in March, even though a majority of them expect new aluminium and power sector investments.

HFF mortgage rates lag behind HFF bond yields

Yields on indexed HFF bonds rose in October with the announcement of plans to cut indirect taxes. The increase was most marked in two shorter maturities. These higher yields were therefore likely to unwind over the following months, but this only happened on a smaller scale than was expected. Expectations of a higher real policy rate over the lifetime of the bonds probably bolstered high yields on the shortest maturities. Although HFF bond yields have risen by 0.4-2.3 percentage points since the government's tax cut announcement, the current HFF mortgage lending rate is only 0.1 percentage point higher.

Outlook for interest rate hikes in international markets

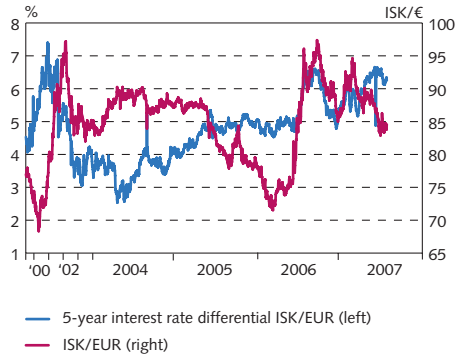
Since the publication of *Monetary Bulletin* in March, the European Central Bank (ECB) and Bank of England have raised their policy rates by 0.25 percentage points. Further hikes may be expected in Europe in 2007, and also in Japan. Expectations of a cut in the US federal funds rate have waned. Forward rates also imply expectations of interest rate hikes by major central banks on top of recent sizeable increases in medium- and long-term rates. Iceland's increasing integration into global financial markets has heightened the effect of global interest rate developments on domestic rates as foreign currency-denominated borrowing by households and businesses, and carry trades, have grown rapidly.

The króna has appreciated this year

The króna has appreciated since the beginning of 2007 and in real terms has moved further away from long-term equilibrium. Expectations that the policy rate will be kept high for longer than was considered likely at the beginning of the year have supported the króna. Global interest rates have been on the increase, narrowing the

differential with abroad. So far, however, this has not put downward pressure on the króna. Iceland's carry-to-risk-ratio increased sharply from the beginning of January to the end of May. Hence, the brisk carry trading over that period was to be expected. In June, however, carry trade volume has moderated, possibly because of reduced interest rate differentials. The narrowing interest rate differential could dampen incentives for carry trades with króna-denominated instruments. A growing correlation has been noted between the króna and other high-yielding currencies such as the New Zealand dollar in the wake of increased carry trades. Since *Monetary Bulletin* was published in March, the New Zealand dollar has also appreciated. Issuance of glacier bonds has had less effect on the exchange rate of the króna than before. This could be because maturing contracts are being refinanced. Although the impact of their issuance has waned, glacier bonds are clearly shoring up the króna. Many foreign investors are also exploring new carry trade products using króna-denominated instruments. General trading in them has probably grown since March. Commercial banks have built up their forward positions in recent months and position-taking against the króna is more expensive as a consequence.

Chart III-7
5-year interest rate differential and exchange rate against the euro
Daily data, July 1, 1999 - July 3, 2007[1]

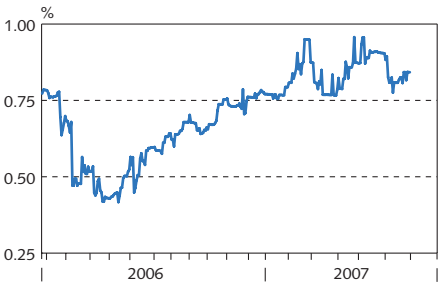


1. Weekly data until 2004.
Sources: Reuters, Central Bank of Iceland.

Credit supply has increased so far this year, led by foreign currency-denominated loans

At the end of February the HFF raised its maximum loan-to-value ratio from 80% to 90% and its mortgage loan ceiling from 17 m.kr. to 18 m.kr. – bringing both back to the limits in effect before the government's economic policy measures in June 2006. Credit supply from the commercial banks increased around the same time. Fierce competition with the HFF has hindered the banks from raising their CPI-indexed mortgage lending rates, despite rising yields on indexed bonds.[1] This may have prompted them to step up supply of foreign currency-denominated loans, an area in which they are not exposed to competition from the HFF. The wide interest rate differential and public debate about high interest rates have probably also driven foreign currency-denominated borrowing by households and businesses.

Chart III-8
Carry-to-risk ratio[1]
Daily data January 25, 2006 - July 3, 2007

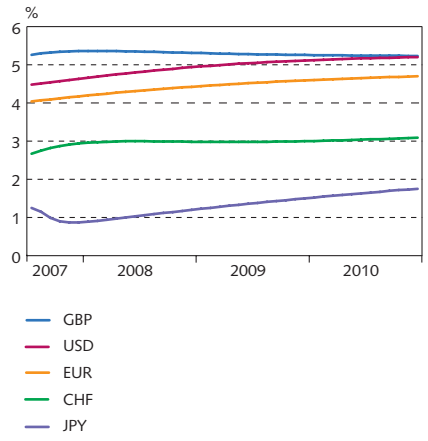


1. Three-month interest rate differential divided by the implied volatility of an ISK/EUR option.
Source: Bloomberg.

Increased risk on foreign borrowing ...

Growth in lending by the credit system reached a historical high in Q4/2006, then slowed down sharply in Q1/2007. The current growth rate is similar to that at the end of 2004. However, deposit money bank (DMB) lending growth has been regaining pace in recent months. Growth of foreign currency-denominated lending to households, adjusted for exchange rate movements, has been robust since the beginning of 2005, and over the past year in particular. Even though last year's depreciation of the króna drove up debt service on foreign loans, borrowers appear to have discounted the risk of a further depreciation; a lower real exchange rate generally ought to represent more favourable conditions in the long run for borrow-

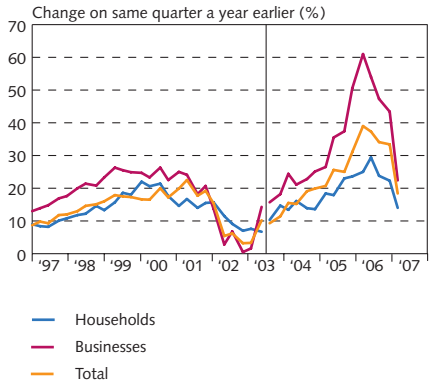
Chart III-9
Forward interest rates
Monthly data July 2007 - July 2010



Source: Reuters.

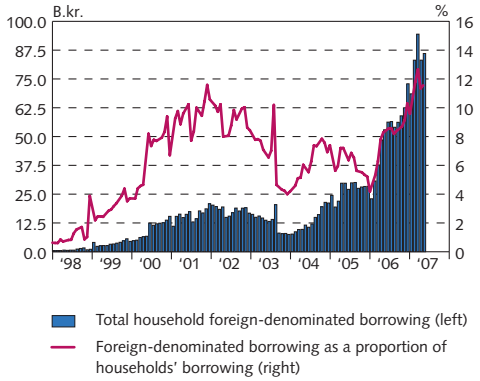
1. CPI-indexed average prime rates of commercial banks and savings banks have risen by more than the HFF's CPI-indexed mortgage rates.

Chart III-10
Quarterly credit system lending growth[1]
Q1/1997 - Q1/2007



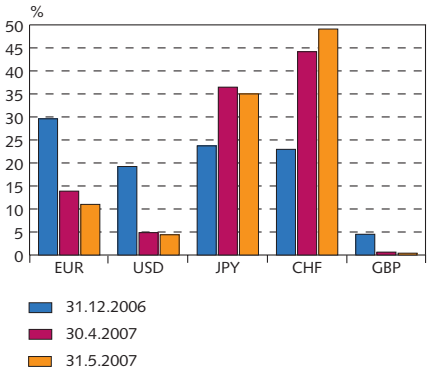
1. Due to a reclassification of lending, after Sept. 2003 data by sector are not comparable with earlier data.
Source: Central Bank of Iceland.

Chart III-11
DMB Foreign currency-denominated borrowing by households and as a share of their total borrowing
Monthly data January 1998 - May 2007



Source: Central Bank of Iceland.

Chart III-12
Currency composition of households' foreign currency-denominated borrowing
Kaupthing, Landsbanki, Glitnir



Source: Central Bank of Iceland.

ing in foreign currencies. The effective exchange rate of the króna is now much stronger again, however, without significantly denting demand.

Currency composition has also shifted notably over the past half-year. While 47% of the three largest commercial banks' foreign currency-denominated lending to households was in the Swiss franc and yen at the beginning of 2007, this share had grown to 85% in May.

… especially because low-yielding currencies predominate

The predominance of low-yielding currencies heightens risks in three ways. First, debt service is generally more volatile on foreign currency-denominated borrowing than on price-indexed borrowing. Unlike much of the business sector, households tend not to have exchange rate hedges – neither income flows in the currencies in which they borrow, nor forward agreements – and are therefore exposed to exchange rate volatility. Second, the main currencies for borrowing at present pose a special risk. Because they are very weak in real terms from a historical perspective, they could potentially appreciate substantially, especially the yen. A depreciation of the króna coinciding with a further strengthening of these currencies could have a hefty impact on debt service on loans denominated in them. Third, these loans carry variable interest rates, which are currently low as well. Forward interest rates in the three currencies accounting for more than 95% of the three largest commercial banks' foreign-denominated lending to households – the Swiss franc, the yen and the euro – imply that interest rates are expected to rise significantly in the near future. Compounding all these risks, it is likely that, for example, an interest hike in Japan would cause the yen to appreciate and the króna to depreciate. Thus the risks are interconnected. It is vital for borrowers to be aware of this.

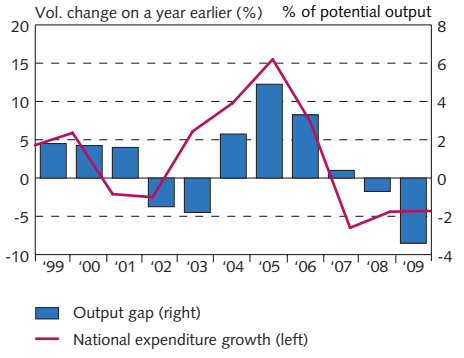
Although foreign currency-denominated loans now account for 11-12% of total DMB lending to households,[2] domestic interest rate developments and credit supply are still by far the most important determinants of household financial conditions in Iceland. Businesses are in a different position. Foreign currency-denominated loans account for 60% of total DMB corporate lending. Many companies have foreign currency income and much easier access to hedges. Thus more often than not, foreign currency-denominated lending poses far less exchange rate risk to businesses than to households. Conditions in global financial markets weigh more heavily for businesses. Higher foreign base rates may to some extent be offset by the banks' lower spreads on their borrowing. Credit terms for Icelandic banks are now similar to just after Moody's upgraded their ratings in February. This is likely to be reflected in the credit terms they offer to households and businesses.

2. The share reached 13% in March but has inched back since due to exchange rate movements.

IV Domestic demand and production

On first impression, preliminary data from Statistics Iceland and the Central Bank's balance of payments figures for Q1/2007 appear to indicate that the adjustment of the economy has been faster than the Central Bank forecast in March. However, irregular items and the base effect of a surge in private consumption and investment in Q1/2007 give a misleading picture. Most other indicators, for example from the labour and real estate markets, imply robust demand growth. Inflation has been above the March forecast and will continue to be for the next few months. This is a clear signal of strong demand and has produced a lower real policy rate than was forecast in March, since then and for the near term ahead. The policy rate forecast presented in this edition of *Monetary Bulletin* implies that in order to attain the inflation target within an acceptable horizon, the Central Bank will need to leave its policy rate unchanged for longer than was assumed in March. Exchange rate movements will have rather more impact on the adjustment process via foreign trade than was forecast then. Nonetheless, the bulk of the adjustment will take place through a contraction in national expenditure, which is now expected to measure 8½% from 2007 to 2009, compared with 10½% in the March forecast (for further details of the forecast, see Table 1 of Appendix 1 on p. 43).

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



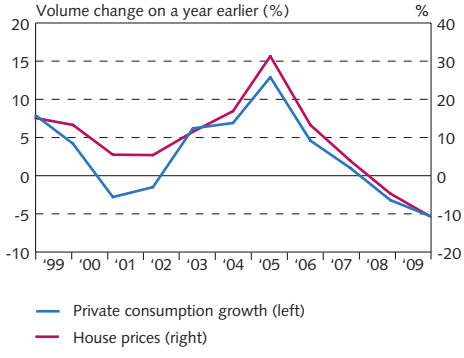
1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Real policy rate lower in the first part of the forecast horizon, then higher

Changes in projections of domestic demand since the March forecast are mainly explained by lower than expected growth in Q1/2007, larger rises in house prices over 2007, lower real interest rates, more wage drift and somewhat less unemployment for the entire forecast horizon.

Domestic demand is forecast to contract more this year than according to the March projections. The main reason is that the greater contraction in investment outweighs higher private consumption growth. In 2008, however, domestic demand will decline by just over two percentage points less than in the March forecast. One contributing factor is lower real interest rates, which combined with more favourable asset price and real wage developments lead to a considerably smaller contraction in investment and private consumption than was forecast then. A tighter monetary stance over the second half of the horizon than was forecast in March, however, will drive national expenditure lower in 2009.

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.

Private consumption to grow more in 2007 and shrink less in 2008 and 2009

According to preliminary data from Statistics Iceland, private consumption contracted by 1.2% year-on-year in Q1/2007. Soaring private consumption has been one of the two main drivers of output growth in recent years, and this was the first contraction in more than four years. In March, the Central Bank forecast that Q1/2007 would be the last quarter of private consumption growth, followed by a contraction for the whole forecast horizon. While Statistics Iceland's

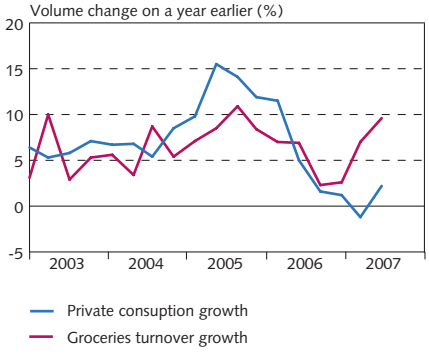
Table IV-1 Indicators of private consumption 2005-2006

% year-on-year change unless otherwise stated	Quarterly figures				Most recent period		
						Change based on	
	Q2/2006	Q3/2006	Q4/2006	Q1/2007	Month	same period in prev. year	year-to-date figures
Groceries turnover (in real terms)	6.9	2.3	2.6	7.0	May	11.1	8.1
Payment card turnover (in real terms)	5.7	1.5	4.8	1.2	May	9.9	5.1
of which domestic	12.0	9.5	15.3	7.5	May	27.6	13.1
of which abroad	16.4	12.2	-7.3	-16.0	May	-2.2	-10.1
Domestic retail debit card turnover	0.7	-4.8	-2.7	-4.8	May	-4.9	-2.2
Car registrations (increase in number)	-15.4	-25.4	-31.8	-40.4	May	7.4	-26.0
General imports (volume change)[1]	22.4	13.1	9.8	-8.4	April	.	-2.0
Imports of consumer goods (volume change)[1]	9.3	2.9	-1.0	-14.9	April	.	-6.8
Private motor vehicles[1]	10.9	-1.9	-7.8	-41.9	April	.	-34.3
Consumer durables, e.g. household appliances[1]	9.3	3.1	0.0	-2.3	April	.	6.5
Consumer semi-durables, e.g. clothing[1]	12.2	8.8	5.2	0.0	April	.	8.4
Food and beverages	5.8	6.1	5.3	8.6	April	.	11.9
Imports of investment goods excluding ships and aircraft (volume change)[1]	47.7	32.5	22.1	-6.3	April	.	-2.4
Gallup confidence index	-18.2	-18.3	8.5	7.9	June	43.8	21.5
Current situation	-10.2	-15.2	5.0	2.5	June	38.0	14.0
Expectations six months ahead	-25.0	-21.3	11.9	12.3	June	49.5	28.2

1. Quarterly figures are year-to-date.

Sources: Capacent Gallup, Federation of Trade and Services, Housing Financing Fund, Land Registry of Iceland, Motor Dealers' and Services Federation, Statistics Iceland, Central Bank of Iceland.

Chart IV-3
Private consumption growth and groceries turnover 1999-2009[1]



1. Groceries turnover growth is the average for April and May, while private consumption growth is the Cental Bank forecast.
Sources: Statistics Iceland, Central Bank of Iceland.

preliminary data give the impression that private consumption is decreasing more rapidly than forecast, in fact the contraction is confined to motor vehicle purchases. Most other components of private consumption show a fair pace of growth.[1] Excluding car purchases (based on figures for the drop in new vehicle registrations and car purchases as a proportion of private consumption in 2006), private consumption would have grown by 2-3% year-on-year. Most indicators show some growth in private consumption in Q2/2007 (see Table IV-1 and Charts IV-3 and IV-4).

Private consumption is forecast to increase by 1% in 2007 but contract by just over 3% in 2008 and more than 5% in 2009. The explanation for the upward revision for 2007, in spite of a contraction in the first quarter, is that higher house prices and lower real interest rates will stimulate private consumption growth this year, in line with indicators for Q2. Also, credit supply and demand both appear to have firmed up recently. The increasing demand for foreign currency-denominated borrowing appears particularly marked, or the banks have steered demand into that channel. Higher disposable income and lower unemployment also contribute to more private consumption over the whole forecast horizon than was expected in March. Over the next two years, private consumption will therefore shrink by less than previously forecast.

Smaller contraction in investment over the forecast horizon

Preliminary data show a drop in investment of more than 28% during Q1/2007. Business investment shrank by 41% and public sector

1. The first-quarter contraction in private consumption should be interpreted with caution due to strong base effects. Annual growth in Q1/2006 was very brisk at 11.5%, and year-on-year growth then had been in double digits for some while. Seasonally adjusted figures show slight growth in Q1/2007, both quarterly and year-on-year.

investment by 7%, while residential investment was up by 6.6% year-on-year. Irregular items and the base effect of brisk earlier growth strongly affect these estimates.[2]

Table IV-1 Investment forecasts in June and March 2009

	Forecast in Monetary Bulletin 2007/2[1]			*Change from previous forecast (percentage points)*		
	2007	*2008*	*2009*	*2007*	*2008*	*2009*
Total investment	-25.6	-15.8	-8.9	-3.2	6.9	-3.1
Business investment	-37.7	-30.2	-14.1	-6.9	8.7	-3.3
Residential investment	1.2	-9.2	-9.9	5.8	-0.3	-1.2
Public sector investment	5.9	37.7	4.5	8.0	-2.0	-5.1

1. Volume change from a year before (%).

The contraction in investment is a major factor in the prospective macroeconomic adjustment. It contracts for the entire forecast horizon, but by four percentage points less than was forecast in March. Nonetheless, the ratio of investments to GDP decreases to one-fifth, as in the previous forecast, over the second half of the horizon.

Real interest rate developments and aircraft transactions explain changes in forecast business investment

Business investment is forecast to contract by almost 38% in 2007, 30% in 2008 and 14% in 2009. The additional contraction by seven percentage points in 2007 is largely the result of the drop in the first quarter (see footnote 2). Investment in the aluminium and power sectors remains unchanged from the earlier forecast at 52 b.kr. A decrease in aluminium and power sector investment by more than 60 b.kr. and aircraft sales of more than 9 b.kr. go a long way towards explaining the 38% contraction in business investment. Heavy investment is still expected in shopping malls, supermarkets, business premises and a combined quayside conference centre/concert hall in Reykjavík. The bulk of further planned investment in the fisheries sector is expected to be postponed, however.

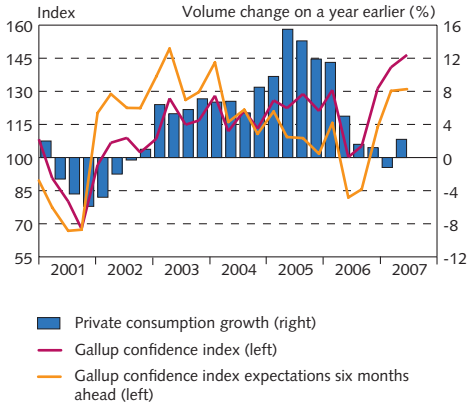
In 2008, the decline in investment will be just over eight percentage points less than was forecast in March. Mostly this is due to a fall in real interest rates following the upward revision of inflation and inflation expectations. The contraction in business investment in 2009 is larger, reflecting higher real interest rates over the second half of the horizon than in the previous forecast.

Business sentiment could indicate a higher investment level

Apart from decreasing investment in the aluminium, power and fisheries sectors and the impact of aircraft sales, there are signs that other investment is growing fairly rapidly. Business sentiment was upbeat in a Capacent Gallup survey conducted in May. The index for the

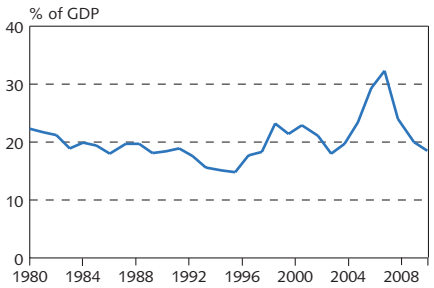
2. Exports of aircraft to the value of almost 10 b.kr. are recorded as a negative business investment in Statistics Iceland's national accounts, reducing the aggregate by a corresponding amount in Q1/2007. Excluding these aircraft, which were imported the year before but not captured immediately in the national accounts, business investment would have contracted by 20 percentage points less, reducing the decrease in gross fixed capital formation by half. If this item is excluded, the outcome is in closer alignment to the March forecast.

Mynd IV-4
Private consumption and consumer confidence Q1/2001 - Q2/2007[1]



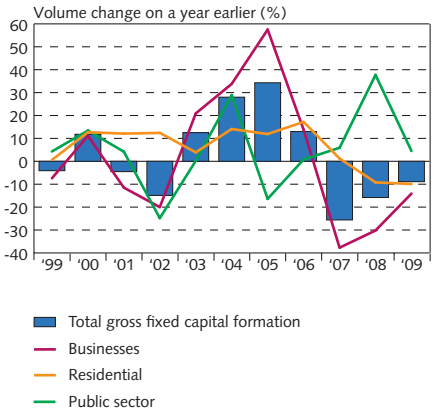
1. Value for private consumption growth in the quarter is Central Bank forecast.
Sources: Capacent Gallup, Statistics Iceland.

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.

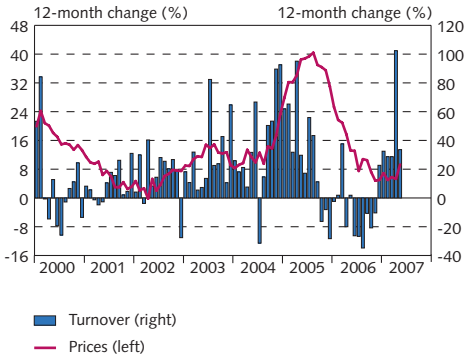
Chart IV-6
Gross fixed capital formation growth and its main segments 1999-2009[1]



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

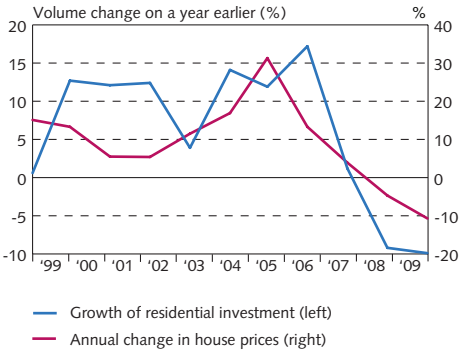
Chart IV-7
Housing market turnover and prices in Greater Reykjavík

Monthly data January 2000-May 2007



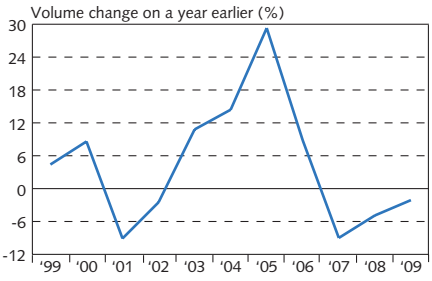
Source: Land Registry of Iceland.

Chart IV-8
Growth of residential investment and house prices 1999-2009[1]



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

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



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

economic situation hit a new high, with 84% of executives describing conditions as good and only 1.5% bad. However, the index for the outlook six months ahead is down from the previous survey in February. More businesses foreseeing a downturn reflects the current bright position. Sentiment in the financial and insurance sector is very upbeat, with 13% of businesses in it forecasting a much better economic outlook six months ahead. Interestingly, 31% of fisheries companies forecast an improvement in conditions then, undoubtedly because they expect the króna to depreciate.

The index of domestic demand has also edged up since the February survey, with almost 50% of businesses expecting an increase over the next six months and only just over 5% a decrease. Again, the financial and insurance sector and retail sector are highly upbeat about the domestic demand outlook, with 57% of financial companies and 66% of retailers expecting an increase.

The executives' responses may indicate that investment will not shrink as sharply as forecast. Growth in imports of capital goods in the first months of the year points in the same direction. These indicators are incorporated into the risk profile of the inflation forecast (see Table IX-1 on p. 37).

Residential investment forecast to grow in 2007, and not decline as was forecast in March

In March, residential investment was expected to contract for the entire forecast horizon. Since then the real estate market has rallied, house prices have risen and turnover has soared. Imports of construction materials and cement sales also indicate a sizeable upswing in residential investment in recent months. Statistics Iceland's preliminary figure for residential investment growth in Q1/2007 is 6.6%. Residential investment is now forecast to increase by just over 1% in 2007 but contract by 9% in 2008 and by 10% in 2009. Nominal house prices are expected to rise by 4% in 2007 but decline considerably afterwards.

Smaller contraction in imports

Imports will contract by less over the forecast horizon than was expected in March, although the difference is negligible apart from this year. The smaller contraction in 2008 and 2009 is in line with the smaller contraction in national expenditure than was forecast in March. In 2007, the smaller contraction is explained by the stronger króna and greater private consumption growth.

Output stagnant after 10% growth over the past three years

The episode of robust output growth is over and the adjustment has begun. In 2004-2006, GDP grew by 10% in real terms. It is now forecast to remain broadly unchanged from the current year until 2009. The growth outlook is marginally flatter than in the March forecast, especially in 2007 and 2009. Negligible output growth is forecast for this year, at a mere 0.2%. The change from the previous forecast is explained by the sharper contraction in national expenditure. The forecast for growth of output in 2008 is virtually unchanged at 0.8%. Domestic demand will shrink by much less than in the previ-

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-June and participants were the research departments of Glitnir, Kaupthing Bank and Landsbanki. The main changes from the previous survey in March are that analysts have revised their forecasts for 2007 upwards for inflation and downwards for output growth. One year ahead, they forecast a stronger króna, higher policy rate and greater increase in asset prices than in the previous survey.

Deterioration in the short-term inflation outlook

The short-term inflation outlook has deteriorated since the last survey in March. Analysts forecast year-on-year inflation in 2007 of 4.4%, which is similar to the Central Bank's baseline forecast. However, the baseline forecast projects an underlying inflation rate of more than 6% in 2007.[1] The analysts' average forecast for year-on-year inflation in 2008 is broadly unchanged from the last *Monetary Bulletin* in March, at 3.6%. The majority expect inflation to be close to target in 2009, when their year-on-year forecast is 3% on average. The rate of disinflation is faster in the Central Bank's baseline forecast, which assumes a somewhat higher policy rate in 2008 and inflation close to the target at the end of that year.

Output growth to pick up in 2008

Analysts have revised their March forecasts for growth in 2007 some way downwards to an average of 1.3%. The Central Bank's baseline forecast, which assumes a more rapid adjustment, puts output growth at a mere 0.2%. One survey respondent also forecasts negligible output growth in 2007. Analysts agree that output growth will pick up in 2008, rising to 3.5%. For 2009, they expect average output growth of just under 3%. The Central Bank's baseline forecast diverges quite markedly, projecting output growth of just under 1% in 2008 and a contraction in 2009. It should be noted that most analysts expect further investments in the aluminium and power sectors in the years to come.

Stronger króna forecast until 2008

The króna has appreciated sharply in recent months. Analysts forecast an average exchange rate index of just over 120 one year ahead and roughly 125 two years ahead. Views for one year ahead differ quite widely, with forecast exchange rate values in the range 112-130. The Central Bank's baseline forecast for exchange rate developments is similar, with an average exchange rate value of just under 120 in 2008 and 128 in 2009.

Higher policy rate across the forecast horizon

In their policy rate forecasts, the analysts are broadly in line with the policy rate path published in *Monetary Bulletin* in March. The Central Bank's policy rate has been unchanged at 13.3% since December 2006.[2] On average, analysts forecast a policy rate of just over 11% one year ahead, just below 7% two years ahead and just below 6% after three years. They all expect the policy rate to be lowered in the final quarter of 2007.

No let-up in asst price increases

Equity prices have risen sharply over the past few months and the OMXI15 index has repeatedly reached record heights. On June 20

1. Based on the CPI excluding the impact of cuts in VAT.
2. A new presentation of the policy rate took effect on June 21 whereby it is now stated as a nominal discounted value and not in terms of annual yield. The policy rate is currently 13.3%, which corresponds to an annual yield of 14.25%. Analysts' survey responses have been converted to the corresponding nominal discounted rate.

it stood close to 8,200, a gain of 9% since mid-March. On average, analysts forecast an index value of almost 9,500 one year ahead and above 10,700 two years ahead.

House prices have followed the same pattern recently, reflecting the positive correlation between asset prices and the exchange rate of the króna. Analysts forecast that real estate prices will increase by just over 4½% on average over the next twelve months and continue to rise across the forecast horizon by 2-3% annually.

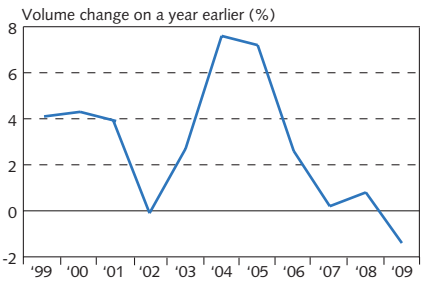
Overview of forecasts by financial market analysts[1]

	2007			*2008*			*2009*		
	Average	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*
Inflation (year-on-year)	4.4	4.4	4.5	3.6	2.8	4.3	3.0	2.5	3.8
GDP growth	1.3	0.5	2.0	3.4	2.5	4.2	2.8	2.6	3.0
	June 2008			*June 2009*			*June 2010*		
Inflation	3.8	3.7	3.9	3.1	2.6	3.9	2.7	2.5	3.2
Effective exchange rate index of foreign currencies vis-à-vis the króna (Dec. 31. 1991=100)	121	112	130	125	122	127	127	125	130
Central Bank policy interest rate	11.3	11.1	11.6	6.8	6.6	7.0	5.8	5.8	5.8
Nominal long-term interest rate[2]	7.5	6.8	8.4	6.7	6.1	7.6	6.5	6.0	7.2
Real long-term interest rate[3]	3.8	3.8	3.9	3.5	3.4	3.6	3.4	3.3	3.5
OMXI15 share price index	9,470	8,750	10,003	10,736	9,800	11,457	12,294	11,000	13,529
House prices (12-month change)	4.6	4.0	5.0	2.1	1.5	2.5	2.7	2.5	3.0

1.The table shows percentage changes between periods, except for interest rates (percentages), the foreign exchange rate index and OMXI15 index (index points). Participants in the survey were the research departments of Glitnir, Kaupthing Bank and Landsbanki. 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).

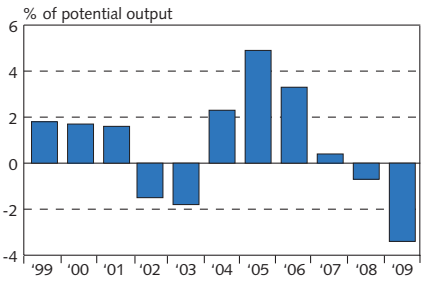
Source: Central Bank of Iceland.

Chart IV-10
Economic growth 1999-2009[1]



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

Chart IV-11
Output gap 1999-2009[1]



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

ous forecast, but the contribution from foreign trade is considerably more negative. Export growth has been revised downwards by seven percentage points and the contraction in imports is slightly less. The contraction in GDP in 2009 has been revised to 1.4% from 1% in the March forecast due to less domestic demand, even though the forecast foreign trade contribution has improved.

The output gap turns negative half a year earlier than previously forecast

According to the current forecast, output will have roughly adjusted to potential in the first half of 2008, half a year earlier than forecast in March. The weaker output growth prospects and a revision of potential output cause the output gap to close faster. A lower depreciation ratio on the capital stock compared with March forecast has a positive effect on the size and growth of potential output and contributes towards narrowing the gap. While the output gap estimate for 2007 has been lowered from 1% to 0.4%, this is almost entirely explained by a downward revision of output growth. In 2008 the output gap is forecast to be negative by 0.7%, compared to the previous forecast for a positive output gap of 0.3%. Revised figures for the potential output of the economy have a crucial effect here, because the output growth forecast is broadly unchanged. In 2009, greater potential output and less output growth than in the March forecast combine forces to turn the output gap negative by 3½%. Slack in the economy will peak at the end of the forecast horizon butd begin to decline in Q2/2010.

V Public sector finances

The outlook is for less worsening in the public sector balance than was forecast in March, largely due to less contraction in private consumption over the forecast horizon and a higher real exchange rate in 2007 and 2008, which will stimulate imports.

Sizeable public sector revenue growth in Q1/2007

According to national and government accounts for Q1/2007, general government revenue was up 8% year-on-year in real terms, or by 11 b.kr. The increase can be traced to higher revenues from corporate and indirect taxation. General government expenditure increased by 5½% in real terms, driven by greater wage expenditure, transfers and interest on funds for relending.[1]

More modest contraction in private consumption reduces the deterioration in the balance

There are no major changes in assumptions affecting public sector finances. No numerical expenditure targets were outlined in the new government's policy statement. Hence expenditure assumptions have been left unchanged. Nevertheless, the downturn in the public sector balance for 2007 will be less than was forecast in March. A surplus of 4.7% of GDP is forecast for 2007. Over the next two years, the estimated deterioration in the balance amounts to 8.8 percentage points of GDP, as against 9½ points in the March forecast. As before, the deterioration is mostly due to the effects of the contraction in domestic demand, tax cuts and real exchange rate movements on Treasury revenues. Spending on transfers and infrastructure will also increase. However, the current outlook for exchange rates and private consumption in 2007 and 2008 is more favourable for revenue than in March. Moreover, lower relative prices of public consumption dampen the increase in expenditures as a ratio of GDP in 2008 and 2009. The ratio is projected to rise by 3.6 percentage points instead of 6½ percentage points in *Monetary Bulletin* 2007/1 in March.

Table V-1 Public sector 2005-2009

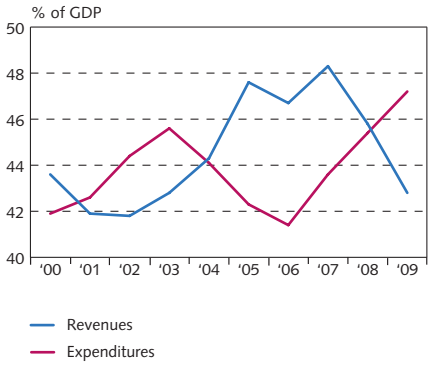
% of GDP	*2005*	*2006*	*2007*	*2008*	*2009*
Revenues	47.6	46.7	48.4	46.0	43.3
Expenditure	42.3	41.4	43.7	45.5	47.3
Balance	5.2	5.3	4.7	0.5	-4.1
Structural balance	2.9	3.8	4.3	0.4	-2.9
Net debt[1]	1.6	0.8	0.8	1.0	5.2
Total debt	24.1	30.7	25.9	25.0	28.5

1. Including Treasury liquidity.

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

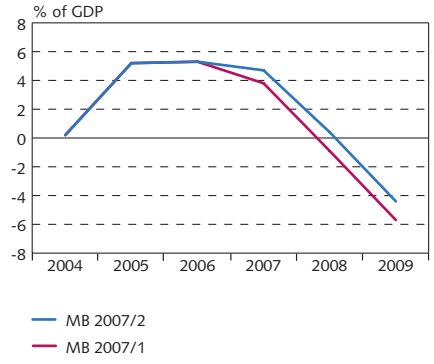
1. Interest expenditure on funds for relending is offset by interest revenues.

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



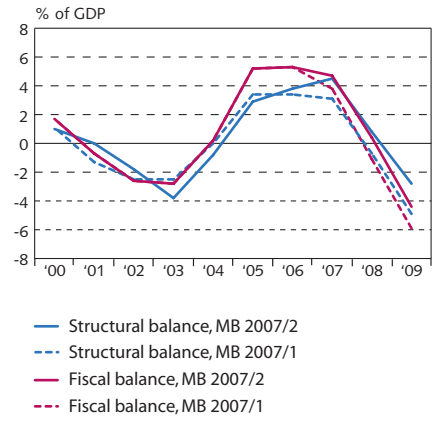
1. Central Bank forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland forecast.

Chart V-2
Public sector fiscal balance 2004-2009[1]



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

Chart V-3
Structural balance of the public sector 2000-2009[1]

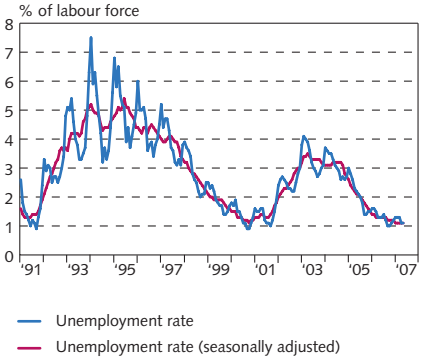


1. Central Bank forecast 2007-2009.
Source: Central Bank of Iceland.

VI. Labour market and wage developments

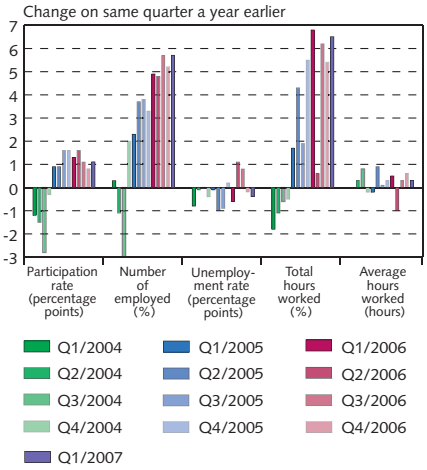
Since *Monetary Bulletin* was published in March, the labour market has become even tighter. Unemployment continued to fall in April and May. Growth in labour demand does not appear to have slowed down and the number of companies wanting to cut back on staff has never been smaller. Increased demand is still largely met with imported labour, but restrictions on labour migration from outside the European Economic Area (EEA) have made it difficult to respond to a shortage of professionals and other skilled workers by recruiting from abroad. Wage drift has widened as a result and wage rises so far this year have exceeded the Bank's March forecast.

Chart VI-1
Unemployment rate
January 1991 - May 2007



Sources: Directorate of Labour, Central Bank of Iceland.

Chart VI-2
Changes in labour market
2003-2007



Source: Statistics Iceland.

Chart VI-3
Recruitment and redundancy plans of businesses over the next 6 month

Source: Capacent Gallup.

Unemployment is still falling ...

Registered seasonally adjusted unemployment measured 1.1% in April and May. Over the year to date, unemployment has averaged 1.2%. The labour market is now expected to remain tighter than was forecast in March, and projected unemployment has been revised downwards by half a percentage point each year across the forecast horizon. Average unemployment is now forecast at 3% in 2008 and marginally above 4% in 2009.

... and labour use is increasing

Labour use in Q1/2007 went up year-on-year by all measures in Statistics Iceland's labour market survey. The annual rate of increase was greater than in the previous quarter. Hours worked increased by 6½% year-on-year, the number of employed by 5.7% and the participation rate by 1.1 percentage point to 82.2%. The most marked growth in the number of employed was in the youngest age group, 16-24 years (10.3%), unlike last year, when the increase was led by those aged 25-54.

More businesses want to recruit

Surveys of the 400 largest companies in Iceland can provide leading indicators of labour demand.[1] The May 2007 results show a jump in businesses' demand for labour from the previous survey in February. More than 51% of businesses reported that labour was in short supply in May, compared with 40% in February. Almost half the surveyed companies – 3 percentage points more – wanted to recruit over the coming six months. Those wanting to cut back on staff reached a record low at a mere 1½%. Only once before has such a large proportion of businesses wanted to recruit employees, in September 2005.

Companies' attitudes to recruitment vary quite considerably depending on their location. More than half of businesses in and around Reykjavík are eager to take on staff, but just over one-third in regional Iceland. For the first time since these surveys were launched, there was no regional bias among those wanting to reduce staffing levels. In earlier surveys, noticeably more regional companies have

1. Regular surveys have been conducted since September 2002, commissioned by the Ministry of Finance, Confederation of Employers and Central Bank of Iceland.

wanted to cut back than those in and around Reykjavík. Planned recruitment was least in the fisheries sector (17%) but most pronounced in financial services and insurance and specialised services (72-76%).

Growing shortage of skilled employees

The recent pattern of importing labour to meet demand has continued. For each month over the first five months of 2007, on average 470 new foreign nationals joined the labour market and a further 330 migrants moved to new employers. More than 90% of new employees originated from the EU-8 countries.[2]

As yet there is no indication of any let-up in labour supply from EU-8, despite a marked drop in unemployment on the continent. Job growth there could have exacerbated Iceland's recent shortage of skilled employees, however. According to the survey of leading companies, the financial services and insurance and specialised services sectors are keen to recruit more staff and more than 70% report shortages. Posts in these sectors appear more difficult to fill from the EEA and obtaining work permits for employees from outside it is a lengthy process. Employers have therefore increasingly been overbidding for local specialists.

Growing wage drift among professionals

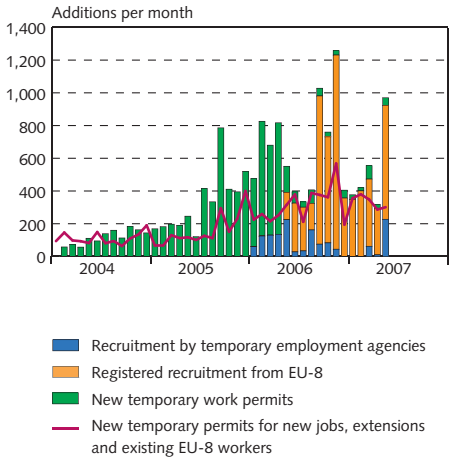
The opening of the Icelandic labour market to EU-8 countries eased underlying wage pressures somewhat in the second half of 2006, especially for unskilled workers. Firm demand has amplified the shortage of skilled labour in recent months, however, creating substantial wage pressures among these groups.

Growing excess demand which cannot be met with imported labour has been reflected in sizeably higher wage rises for these groups than for other sections of the labour force so far this year. While most of the labour force received a 2.9% rise on January 1 under general wage settlements, the quarterly rise in the wage index for the labour market as a whole amounted to 4.2% in Q1/2007. Wages of professionals, technicians, semi-professionals and clerks went up by considerably more, in the range 4.8-5.9%.[3]

Higher wages creep up the entire pay scale

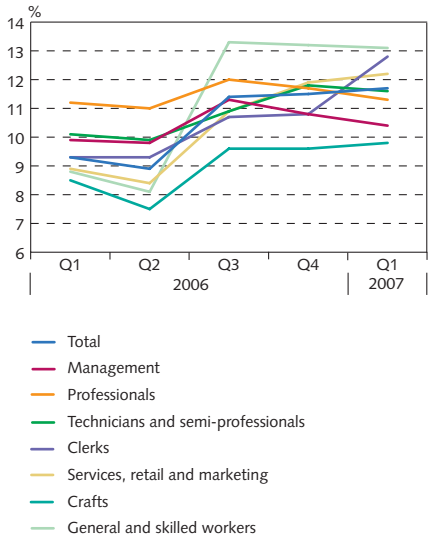
Following the review of private sector wage settlements agreed between the Icelandic Federation of Labour (ASÍ) and the Confederation of Icelandic Employers (SA) in summer 2006, the Central Bank assumed in its forecasting that increases for the lowest-income groups, which had been the main aim of the review, would spread up the pay scale in such a tight labour market. This appears to have happened, although the wage drift emerged later than the Central Bank had

Chart VI-4
Foreign labour



Source: Directorate of Labour.

Chart VI-5
Private sector wage index by occupational group
Change on a year earlier (%)

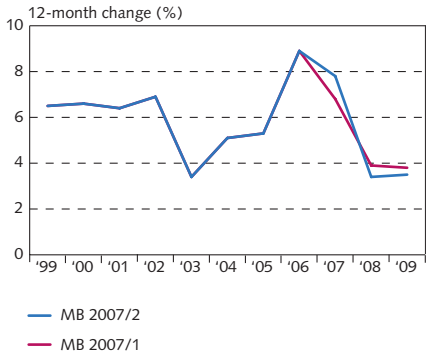


Source: Statistics Iceland.

2. EU-8: 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.

3. With the current rapid labour turnover rate, Statistics Iceland's index probably underestimates wage changes quite significantly, since it measures only wage changes for employees with the same employer. Wage changes for people who switch to higher-paid jobs are not reflected in the index.

Chart VI-6
Unit labour cost 1999-2009[1]



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

forecast. Wage costs were overestimated in the forecasts published in *Monetary Bulletin* 2006/2 and 2006/3 in July and December last year. In March 2007 the wage projections were revised downwards on the assumption that the dampening effect of migrant labour on wage drift could have been underestimated. Substantial wage drift has been noted since then, however, especially in the managerial and professional segments, and far in excess of the forecast in March. Leading indicators also imply that even stronger labour demand will build up in the coming months.

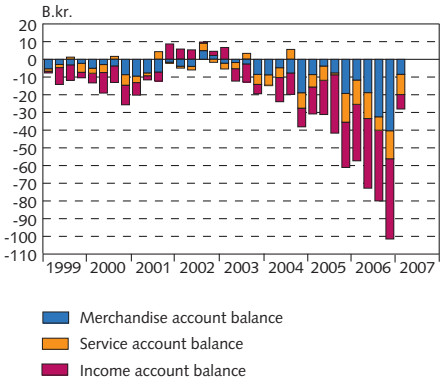
Uncertainty about migrant labour supply and pending wage settlements

In light of the tighter labour market, the Central Bank's forecast for the increase in unit labour costs (ULC) has been revised upwards since March, to 7.8% from 6.8%. However, as a result of faster growth of productivity, the projected increase in ULC in 2008-2009 has been revised downwards, but wage assumptions are broadly unchanged. The risk in the wage cost forecast for the coming years is to the upside. A higher forecast rate of inflation over the first part of the horizon fuels uncertainties about wage increases in the years to come due to the pending wage settlements, and supply of migrant labour is also more uncertain.

VII External balance

The current account deficit in Q1/2007 amounted to 28 b.kr., a decrease of almost 74 b.kr. from the previous quarter. This is the greatest change within a single quarter since quarterly measurements were introduced in 1990. Around half of the contraction derived from a smaller deficit on the merchandise account, 4% on the service account and 46% on the balance on income. Net current transfer grew sharply to 1.4 b.kr. in Q1/2007, however, due to increased contributions to development aid and international agencies.

Chart VII-1
Current account balance components[1]
Q1/1999 - Q1/2007



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

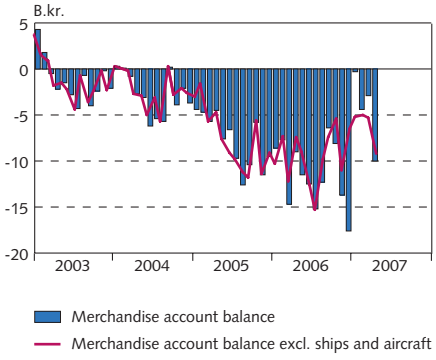
Irregular items explain the smaller current account deficit

In light of heavy imbalances in Iceland's foreign trade in recent years, news of a contraction in the current account deficit is certainly encouraging. However, most of this sharp reduction is attributable to irregular items rather than an easing of underlying imbalances. Increased merchandise exports compared with the March forecast are largely explained by transactions involving aircraft. Statistics Iceland's revised data on merchandise trade in 2006 contain a large-scale import of aircraft that was not included in preliminary figures. These aircraft were then re-exported in the first months of 2007. As a result of this adjustment, total imports in 2006 were considerably greater than initial statistics indicated. By the same token, aircraft exports have a major impact on the merchandise account balance in Q1/2007. If irregular items (i.e. sales and purchases of ships and aircraft) are excluded, the merchandise account deficit in Q1/2007 is more than double, at almost 18 b.kr. instead of just over 8 b.kr. (see Chart VII-2).

Imports of goods and services in Q1/2007 were in line with the Central Bank's forecast, while exports of goods and services were much greater, even if irregular items are excluded. Merchandise account data for April and May imply that the trade deficit in Q2/2007 will be broadly in line with the forecast presented in *Monetary Bulletin* in March.

In Q1/2007, the service account deficit decreased by just over 2 b.kr. year-on-year. Growth in tourist arrivals and overnight stays so far this year indicates a sizeable increase in tourism receipts ahead in 2007. However, there are indications of increased foreign travel by Icelanders during the year, which will drive up service expenditures. Offsetting this, service imports connected with investments in the aluminium and power sectors will decline year-on-year in 2007. On the whole, the service account deficit may be expected to continue to narrow over the coming quarters.

Chart VII-2
Merchandise account balance
Monthly data at constant prices



Sources: Statistics Iceland, Central Bank of Iceland.

Sharp drop in the income deficit in Q1/2007

A marked quarterly change took place in the balance on income.[1] Income receipts grew by 37 b.kr., but income expenditures by less than 5 b.kr. It should be borne in mind that Iceland's gross external

1. The balance on income captures wage, interest and dividend flows to and from Iceland. Reinvested earnings, i.e. profits of outward foreign direct investments net of profits of inward foreign direct investments, are also classified under the balance on income.

debt is substantially larger than gross external assets, to the tune of 1,283 b.kr. Thus the income account figures reflect a major turnaround in returns on the asset stock. The sharpest increase was in dividends and reinvested earnings, which soared from 35 b.kr. in Q4/2006 to almost 65 b.kr. in Q1/2007. Reinvested earnings accounted for the lion's share of the increase, at almost 61 b.kr., mainly due to hefty profits by a single company in which Icelandic residents have a major shareholding.

How the balance of income will develop over the coming quarters is difficult to predict, given the predominant role of returns on foreign direct investment. Returns depend on the operating performance of foreign companies in which residents hold investments. Likewise, non-resident holding companies own large shares in resident companies. If these companies perform well, they can exert a negative effect on the current account deficit via the balance on income.[2]

Marginal quarterly improvement in the international investment position

Iceland's international investment position (IIP) was negative by 1,283 b.kr. at the end of Q1/2007 and had narrowed by 114 b.kr. from the end of 2006. Both foreign assets and foreign debt swelled over this period, but the former by more, as the change in IIP reveals. However, most of this increase may be attributed to the strengthening of the króna.

Current account outlook broadly unchanged from previous forecast

Given the decrease in the current account deficit in Q1/2007 – due to irregular items in the merchandise account and an unexpected narrowing of the balance on income – the forecast for the current account deficit in 2007 has been revised downwards. A rough estimate based on average return on investment stocks produces the contrary indication of a substantial risk that it will deteriorate. The forecast for 2008 is broadly unchanged, while a smaller deficit is also forecast for 2009, reflecting an improvement in the outlook for the development of the terms of trade.

2. This topic is discussed in more detail in a paper by Daníel Svavarsson and Pétur Örn Sigurdsson on pp. 53-73 of this edition of *Monetary Bulletin*.

VIII Price developments

Although the real exchange rate has been higher than forecast in *Monetary Bulletin* in March, inflation has been higher than expected as well. Twelve-month headline inflation has slowed down, in particular due to cuts in consumption taxes and base effects. The hefty price rises in spring 2006 caused by a sharp depreciation of the króna have now passed out of the twelve-month CPI figures. By this measure, inflation dropped from 5.9% in March 2007 to 4% in June, even though the CPI rose by 2% over the same period. Underlying inflation is considerably higher. Excluding volatile items, public services and changes in mortgage costs and indirect taxes, twelve-month inflation now measures 6.2% (see Box VIII-1 on p. 32). Thus strong inflationary pressures are still present, fuelled by robust domestic demand and sharp increases in domestic costs over the past year.

Higher than expected inflation in Q2/2007

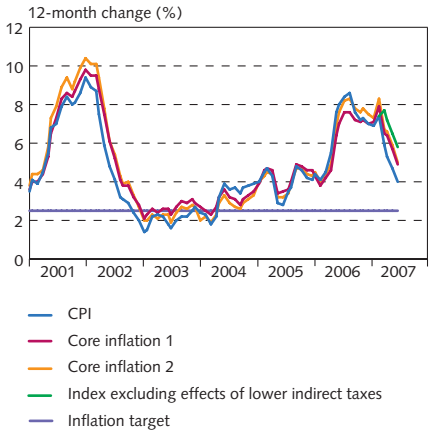
Annual inflation in Q1/2007 measured 6½%, in line with the Central Bank forecast which was made towards the end of the quarter. It is heading for 4.4% in Q2/2007, almost one percentage point more than forecast in March. Most of the deviation is explained by unexpectedly large rises in house prices. CPI measurements including and excluding the housing component have diverged sharply in recent months. Twelve-month inflation excluding housing measured 1.7% in June, which is over two percentage points less than the full CPI. The difference was under one percentage point at the beginning of 2007.

No let-up in house price inflation

So far this year the real estate market has picked up sharply and been characterised by brisk turnover and rising prices. For a long time, analysts had predicted a sizeable cooling of the housing market. It appeared to have begun towards the end of 2006. Over the year to date, however, house prices have again been driving inflation, causing the CPI to rise by almost 1½ percentage points over that period. Since the publication of *Monetary Bulletin* in March, seasonally adjusted house prices in and around Reykjavík have gone up by more than 4% and seasonally adjusted turnover in the real estate market by just under 4% (based on day of sale agreement, not registration of property transfer). In June 2007, the twelve-month rise in the housing component of the CPI amounted to 11%.

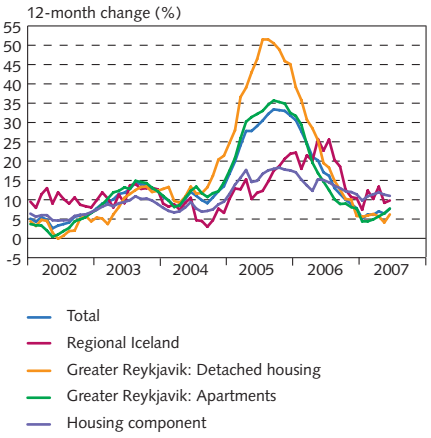
In light of economic developments in recent months, the resurgence in house prices is not surprising. Real disposable income has soared over the past year, boosted by large wage rises, tax cuts and increased employment. A strong housing market furthermore tends to coincide with a strong króna. These conditions are reflected in the current peak in consumer sentiment. Also, the residential housing market has turned more turbulent again after the Housing Financing Fund (HFF) raised its loan-to-value ratios and mortgage ceilings in February. The commercial banks responded by raising their own loan-to-value ratios and easing mortgage terms, as well as broadening their range

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



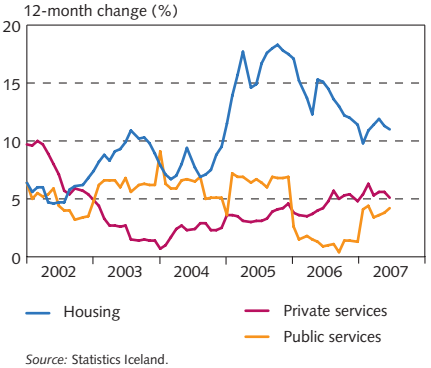
1. The core indices are compiled on the same basis as the CPI, with Core Index 1 excluding prices of agricultural products and petrol, and Core Index 2 also excluding prices of public services.
Source: Statistics Iceland.

Chart VIII-2
The CPI housing component and market prices of housing January 2002 - June 2007



Source: Statistics Iceland.

Chart VIII-3
Prices of housing and services January 2002 - June 2007



Source: Statistics Iceland.

Box VIII-1

Estimating underlying inflation

The Central Bank of Iceland's inflation target aims at an average rate of inflation, measured as the twelve-month increase in the CPI, of as close to 2½% as possible. In order to attain the target, the Central Bank's monetary policy must be forward-looking. It makes little difference if twelve-month inflation has been 2½%, if underlying inflation pressures are building up. Thus the Central Bank attempts to distinguish transitory and one-off components of past inflation from the core components, or underlying inflation, that provide indications about future inflation developments.[1]

Estimates of underlying inflation attempt to isolate price changes that reflect volatile and short-lived effects, such as changes in indirect taxes, supply-side shocks and changes in relative prices. Central banks generally consider it unnecessary to respond to first-round effects of such price changes, even if they cause short-lived deviations from target. Under certain conditions, however, temporary fluctuations can have lasting effects that call for a response.

Measures of core inflation

Statistics Iceland publishes two monthly core inflation indices alongside the headline consumer price index (CPI). The core indices have the same base as the CPI but Core Index 1 excludes prices of vegetables, fruit, other agricultural products and petrol, and Core Index 2 excludes these items and public services prices as well. Some of these subcomponents are highly volatile, their prices are determined in global markets or regulated, and therefore more or less beyond the influence of monetary policy.

Changes in indirect taxes and subsidies affect prices at the time that they take place. They also have a temporary impact on headline inflation. However, they do not necessarily affect underlying inflationary pressures in the economy and therefore do not indicate a lasting change in the inflation rate.

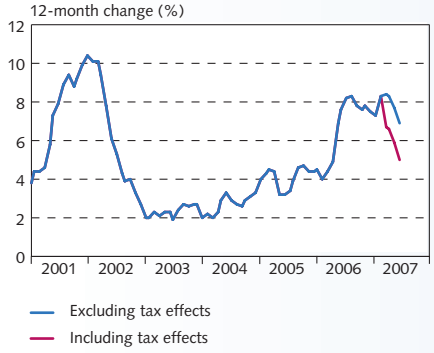
In March 2007, the Icelandic government cut value-added tax and excise taxes on a variety of goods and services, with the aim of lowering food prices. At this juncture, Statistics Iceland began publishing an index excluding the first-round effects of cuts in indirect taxes, in which VAT is kept constant at the rate from the preceding February. This index will provide an important measure of underlying inflationary pressures until the first-round effects of the cut in VAT are no longer captured by the index, in March 2008. Another indicator of underlying inflation is core inflation excluding the first-round effects of cuts in indirect taxes, which shows general price developments excluding volatile items and regulated prices.[2]

Marked divergence between headline and underlying inflation

When the effect of the reduction in indirect taxes was felt in March, the CPI fell by 0.3% and twelve-month inflation from 7.4% to 5.9%.[3] However, the index excluding the tax effects rose by 1.4%, driven by strong underlying inflationary pressures. For this reason, a marked divergence has formed between twelve-month headline inflation and measures of underlying inflation that exclude these tax effects. Headline inflation in June measured 4%, the lowest rate since August 2005. Excluding the effects of the tax cuts, however, the inflation rate was

Chart 1

Core inflation including and excluding tax effects January 2001 - June 2007[1]



1. Based on core inflation 2 which excludes agricultural products, petrol and public services.
Source: Statistics Iceland.

1. This topic is discussed in Pétursson, Thórarinn G. (2002), Evaluation of core inflation and its application in the formulation of monetary policy, *Monetary Bulletin* 2002/4, 54-63 and in The new framework for monetary policy, *Monetary Bulletin* 2001/2, 40-45.
2. Various other methodologies are used to estimate underlying inflation. These include statistical techniques such as the trimmed mean and multivariate time series. Another common approach is to reduce the weighting of highly volatile subcomponents on the basis of historical standard deviation. See further Pétursson (2002), op. cit.
3. Prices of food and beverages decreased by 7.4%, catering by 3.2%, private sector services by 0.6% and public sector services by 0.9%.

5.8%, after falling from 7.7% in March. The difference between headline inflation and core inflation excluding the tax effect is even more pronounced. In June, the twelve-month increase in Core Index 2 was 6.9%, down from 8.4% in March.

Furthermore, estimates of underlying inflation should ignore the impact of real interest rates on measured inflation. Since monetary policy has a direct effect on the interest cost component (largely reflected in the housing component of the index), it would be misleading to regard it as part of underlying inflation. The first-round upward effect of higher interest rates on the CPI amounted to 0.7 percentage points in the last twelve months. In terms of core inflation excluding tax effects and after adjustment for higher real interest rates, underlying inflation currently measures more than 6%. When such high underlying inflationary pressures are present, the Central Bank is still a long way from attaining its inflation target.

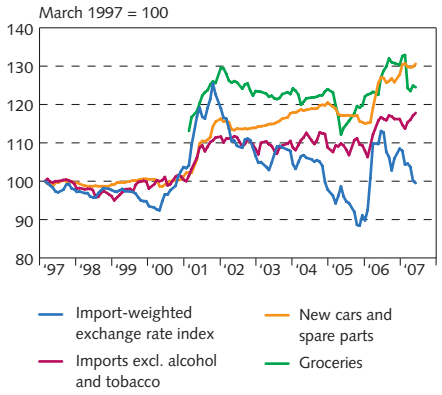
of housing credit products in both domestic and foreign currency. A reduction in the HFF mortgage rate in April also fuelled demand. To redress their competitive position, the banks promoted low-interest foreign currency-denominated loans. The recent stability and strengthening of the króna may have made foreign loans an attractive option for homebuyers, even though its current strength increases the likelihood of a subsequent depreciation and correspondingly heavier debt service. Another factor has been the recent debate about the benefits of foreign currency-denominated loans over indexed mortgage credit in the current climate of high domestic interest rates and persistent inflation. Also, market agents appear to expect the króna to stay strong for as long as the short-term interest rate differential with abroad remains wide.

Exchange rate developments ease inflationary pressures

The króna has been buoyant since autumn 2006, strengthening by almost 4% since the last *Monetary Bulletin* was published in March. The exchange rate index reached a low of 112 at the end of May. Exchange rate developments have eased inflationary pressures but not led to much reduction in import prices. Compared with how quickly imported goods prices rose when the króna took a dive in spring 2006, they seem much stickier in the other direction. Several explanations are possible. Domestic costs have risen steeply over the past year, counteracting the stronger domestic currency to some extent. Retailers who regard the appreciation as transitory are less likely to cut prices, especially if domestic demand is robust. Nonetheless, the twelve-month change in prices of imported food and beverages is negative by more than 3%, mostly because of the cut in value-added tax.

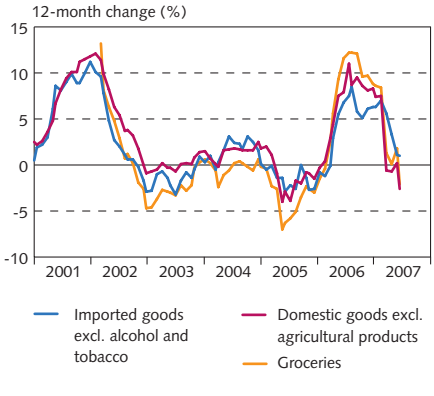
Petrol prices have been volatile over the past year, reflecting changes in world market prices. Over the past three months, petrol prices have risen by almost 8%, despite the higher real exchange rate. This has contributed just over 0.4 percentage points to the CPI over this period. Last autumn's drop in petrol prices, and the fact that the surge in petrol prices in spring 2006 has now passed out of the measurements, mean that petrol prices have actually fallen by 0.3% over the past twelve months. Excluding petrol, prices of imported goods have gone up by 1.5% at the same time.

Chart VIII-4
Import-weighted exchange rate and import prices March 1997 - June 2007



Source: Statistics Iceland.

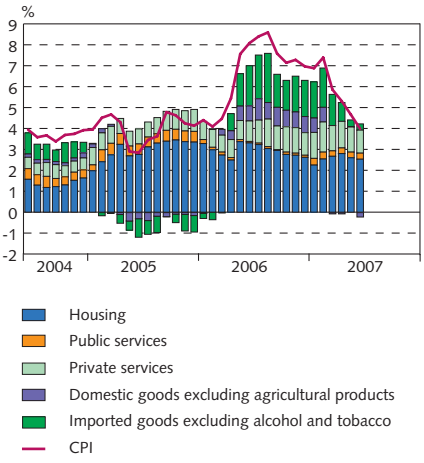
Chart VIII-5
Goods prices January 2001 - June 2007



Source: Statistics Iceland.

Chart VIII-6
Components of the CPI
June 2004 - June 2007

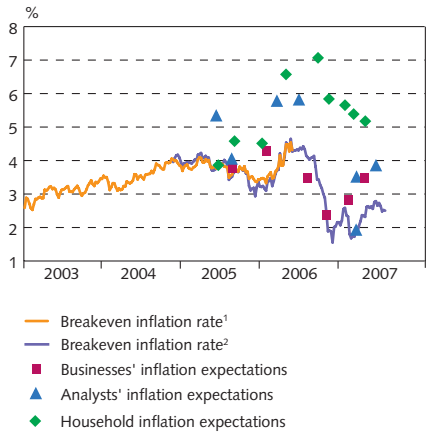
Contribution to CPI inflation in past 12 months



Source: Statistics Iceland.

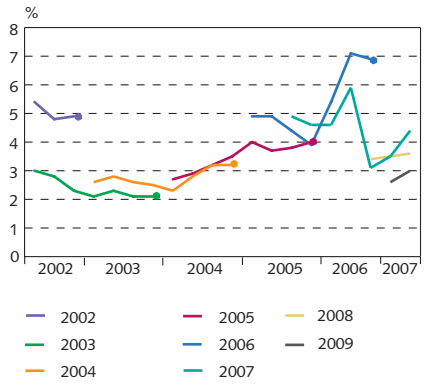
Chart VIII-7
Inflation expectations

Weekly data January 7, 2003- July 3, 2007



1. Breakeven inflation rate is the spread between RIKB 13 0517 and RIKS 15 1001. 2. Breakeven inflation rate is the 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-8
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.

Impact of cuts in indirect taxes and excise taxes

A precise estimate of the aggregate impact of the cuts in indirect taxes and excise taxes in March is difficult to make. A comparison of twelve-month CPI figures including and excluding the tax changes implies that the total impact was about 1.8 percentage points. The reduction in VAT on food and beverages was passed on in full when goods prices fell by 7.5% in March. The impact of lower excise taxes was estimated at 0.2 percentage points, half of which has been passed on to prices. The impact on the catering segment was much slighter than expected, at less than 0.2 percentage points – Statistics Iceland had forecast 0.4 percentage points. Thus some caterers have retained the reduction in VAT, perhaps in response to growing demand and higher domestic costs, especially large wage rises. Prices of domestic goods excluding agricultural products have fallen by more than 2.5% over the past twelve months, and domestic food and beverages by more than 4.5%.

Recent wage drift could fuel services price inflation

Services price inflation has recently slowed down slightly and the twelve-month increase in prices of private sector services stood just above 5% in June, after peaking at 6.3% in February. Twelve-month services price inflation could continue to fall in the summer, partly because of the base effect caused by substantial rises in summer 2006. However, it could equally be exacerbated by greater cost pressures resulting from recent wage drift (as discussed in Section VI on p. 26). Noticeable changes in subcomponents of private sector services include increases of 25% in accommodation rates and 50% in hotel services over the past twelve months.

Inflation expectations up by most measures

Most measures of inflation expectations have been on the rise recently as inflation outstrips forecasts. In a survey of business sentiment among Iceland's largest companies, conducted on May 8-31, executives forecast 3.6% inflation on average over the next twelve months, up from 2.9% in the previous survey in February. Household expectations have inched downwards, however. A survey conducted on May 15-29 showed that households expect 5.3% inflation over the next twelve months, down by 0.4 percentage points since February. Thus households still expect inflation to run high in the near-to-medium term.

In another survey in June (see Box IV-1 on p. 23), financial market analysts upped their inflation expectations in 2007 from the forecast published in *Monetary Bulletin* in March. On average, analysts forecast 4.5% inflation year-on-year in 2007 and their forecast for 2008 was unchanged at 3.6%.

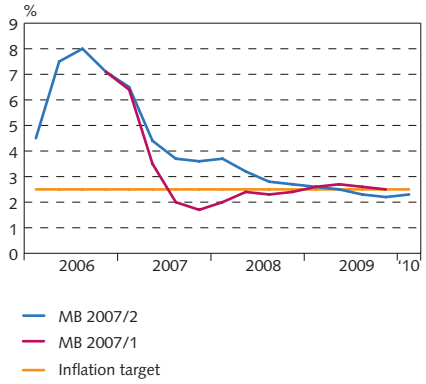
Measured by the breakeven inflation rate in the bond market, inflation expectations have risen since the last *Monetary Bulletin* in March, and averaged 2.6% between April 3 and July 3.

IX Inflation forecast

Slower disinflation than previously forecast

As pointed out in preceding sections of this edition of *Monetary Bulletin* and discussed in more detail in Box IX-1 on p. 38, underlying inflationary pressures appear to have been stronger than expected in the last macroeconomic and inflation forecast in March. The disinflation process has therefore been slower than forecast and business and household inflation expectations have risen. The current outlook is that the inflation target will be attained later than was forecast in March. Inflation is now not expected to be brought to target until the first half of 2009, instead of reaching target immediately in mid-2007 and stabilising there from mid-2008 (see also Table 2 in Appendix 1 on p. 43).

Chart IX-1
Inflation – comparison with MB 2007/1



Sources: Statistics Iceland, Central Bank of Iceland.

Faster depreciation will boost inflationary pressures ...

The króna is stronger now than in March and the real exchange rate is close to a historical peak. As a result of the high real exchange rate and faster rises in global long-term interest rates, the króna is expected to depreciate more rapidly than was forecast in March, and end up somewhat weaker at the end of the forecast horizon.

The appreciation of the króna in recent months has only driven down inflation to a limited extent. Retailers have probably expected the recent strength of the króna to prove short-lived and therefore not fully adjusted prices. Accordingly, they may have some leeway when the depreciation begins. However, there is a risk that a significant depreciation will drive up inflation. Domestic demand is robust and domestic costs have increased by more than is compatible with price stability. The prospect of a more rapid depreciation has thus caused the inflation outlook to deteriorate.

... which must be met by closing the output gap faster

As pointed out in Box IX-1, potential output growth has been revised upwards from March and output growth downwards on average, despite a somewhat milder contraction in domestic demand in 2008. Accordingly, the exchange rate of the króna and net trade will bear more of the brunt of the adjustment.

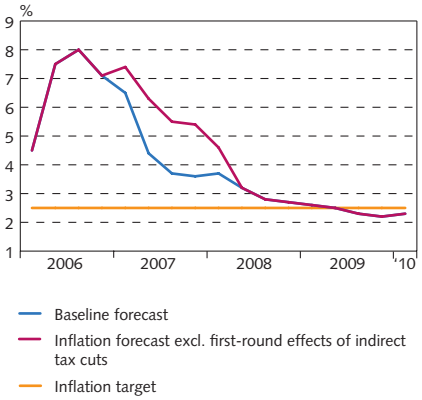
Higher potential output growth and slower output growth will close the output gap faster than was forecast in March. It is now expected to turn negative around mid-2008, roughly half a year earlier than previously forecast.

Headline and underlying inflation close to target at end-2008

As discussed in Section VIII on p. 31 and Box VIII-1 on p. 32, underlying inflation is still running high. Demand and cost pressures have been strong and house prices have soared instead of the slow decline forecast in March.

In its March *Monetary Bulletin*, the Central Bank criticised the timing of cuts in consumption taxes for contributing to higher real disposable income and, other things being equal, relaxing the fiscal stance, at the same time as the main task of economic policy was to

Chart IX-2
Inflation including and excluding first-round effects of indirect taxes



Sources: Statistics Iceland, Central Bank of Iceland.

dampen domestic demand pressures. It also underlined that monetary policy decisions would ignore the temporary first-round effects of tax cuts on headline inflation.

Chart IX-2 shows the slower reduction in inflation excluding the first-round effects of the tax cuts than in headline inflation. Inflation excluding the first-round effects is forecast at 5½% in Q4/2007, but headline inflation 3½%. It will remain consistently higher until Q2/2008, when the effects pass out of the twelve-month inflation measures. Headline and underlying inflation will be close to target in late 2008, but the target will not be fully attained until the first half of 2009.

Great uncertainty about how developments will unfold

Central Bank staff base their assessment of the economic outlook three years ahead on macroeconomic models as well as possible shocks that could affect developments. Such forecasts are invariably fraught with uncertainties, especially in a climate where imbalances are so huge that historical precedents or comparable scenarios from other countries are lacking.

As Table IX-1 shows, the main uncertainties are broadly unchanged. There is still considered to be some risk that the króna will weaken, given the high real exchange rate and heavy funding requirement for the current account deficit (see further Box IX-2 on p. 40). Likewise, the inflation outlook could deteriorate if the fiscal stance turns out slacker than in the baseline 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 Box IX-2). Offsetting this, a fall in asset prices and quicker monetary policy transmission could ease underlying inflationary pressures compared with the baseline forecast. It is also conceivable that the pass-through of a faster depreciation of the króna would be less than historical experience would suggest, if the economy can be cooled sufficiently quickly and if inflation expectations are sufficiently anchored. Although higher global interest rates would contribute to a depreciation of the króna and short-term inflationary pressures, they would also spur an increase in domestic interest rates. In the long run this would tighten the monetary stance, thereby narrowing the output gap and reining in inflation. There is also a risk that wage increases in forthcoming national settlements are underestimated, although migrant labour might ease pressures in the labour market.

Risk profile still tilted to the upside ...

In assessing the economic outlook and in monetary policy decision-making, it is important to consider not only the baseline forecast but also the risk profile. Alternative scenarios are presented to highlight the impact of specific risks, and important asymmetric risks are assessed.

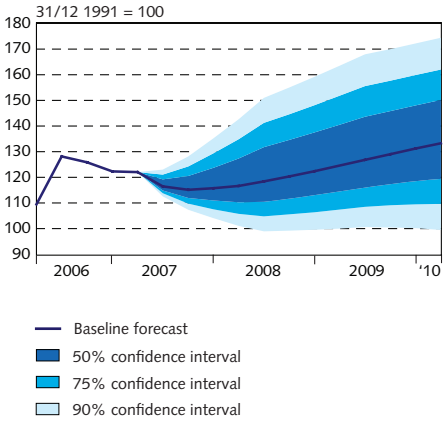
Chart IX-3 shows the confidence intervals of the exchange rate. Reflecting the overview of the main asymmetric risks in Table IX-1, the probability distribution of the exchange rate is tilted to the upside.

Table IX-1 Main asymmetric uncertainties in the baseline forecast

Uncertainty	*Explanation*
Exchange rate developments	Wide current account deficit and high real exchange rate could exert more downward pressure on the króna. So could foreign inverstor flight and rises in global interest rates if they are underestimated
Private consumption	Falling asset prices and growing debt service could curtail private consumption growth beyond what is forecast
Public sector finances	The fiscal stance could be laxer than is assumed
Output gap	Turnover indicators and survey findings could imply that economic activity in 2006 and the year to date is underestimated
Wage costs	Wage rises in connection with forthcoming national settlements could be underestimated
Debt service	The speed and scale of rises in foreign interest rates could be underestimated, increasing external debt service beyond what is forecast
Planned investments in aluminium and power sectors	Decisions on investments in aluminium-related projects could spur confidence and bolster the króna and domestic demand, ultimately generating inflationary pressures when the initial impact on the exchange rate unwinds
Transmission of monetary policy	If the transmission of monetary policy is stronger than assumed in the forecast, disinflation could be faster

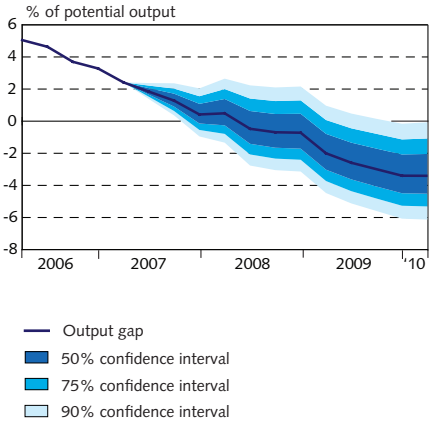
Central Bank risk profile	*One year ahead*	*Two years ahead*	*Three years ahead*
Monetary Bulletin 2006/3	Upward	Upward	...
Monetary Bulletin 2007/1	Upward	Upward	Upward
Monetary Bulletin 2007/2	Upward	Upward	Upward

Chart IX-3
Effective exchange rate
Forecasting period: Q2/2007 - Q1/2010



Source: Central Bank of Iceland.

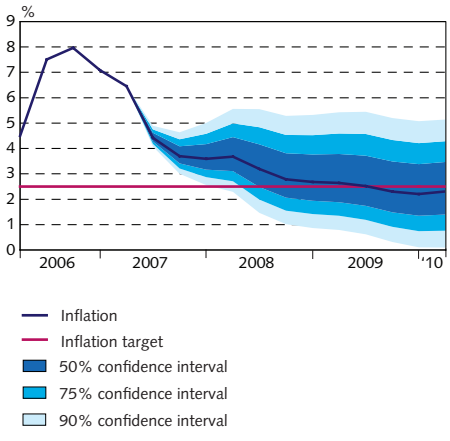
Chart IX-4
Output gap
Forecasting period: Q2/2007 - Q1/2010



Sources: Statistics Iceland, Central Bank of Iceland.

However, the forecast is more symmetric than in March, because more allowance is made for a depreciation in the baseline forecast itself. The baseline forecast risk profile and alternative scenarios in Box IX-2 on p. 40 also indicate that the output gap risk profile over a three-year horizon is tilted to the upside (Chart IX-4). Consequently, the risk profile of both headline inflation and inflation excluding the temporary first-round effects of cuts in consumption taxes is titled to the upside as well (Charts IX-5 and IX-6). As underlined above, inflation is not likely to be brought back to target until the first half of 2009, but the probability finally exceeds 50% around the middle of 2008.

Chart IX-5
Inflation
Forecasting period: Q2/2007 - Q1/2010



Sources: Statistics Iceland, Central Bank of Iceland.

... with a significant probability that a tighter monetary stance than projected in the baseline forecast will be needed

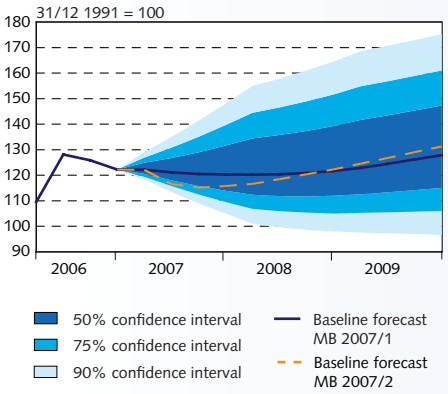
Uncertainties in assessing the macroeconomic and inflation outlook make the policy rate path that is required to bring inflation to target within the forecast horizon highly uncertain. The policy rate will need to respond if economic developments unfold differently from the baseline forecast or monetary policy is not transmitted as expected.

Box IX-1

Changes in the baseline forecast from Monetary Bulletin 2007/1

Chart 1
Effective exchange rate

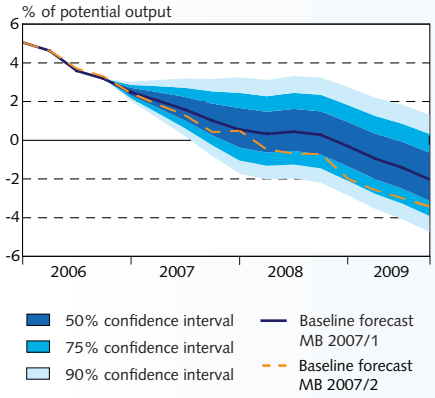
Baseline forecast and uncertainty bands MB 2007/1
and baseline forecast MB 2007/2



Source: Central Bank of Iceland.

Chart 2
Output gap

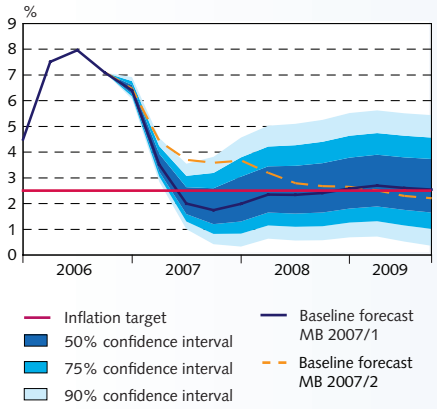
Baseline forecast and uncertainty bands MB 2007/1
and baseline forecast MB 2007/2



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3
Inflation

Baseline forecast and uncertainty bands MB 2007/1
and baseline forecast MB 2007/2



Sources: Statistics Iceland, Central Bank of Iceland.

As new data become available, the economic position and outlook are reassessed and forecasts revised accordingly. This Box describes the main changes in the macroeconomic and inflation forecast since *Monetary Bulletin* 2007/1 in March and compares the current baseline forecast with the probability distribution of the previous one.

The main finding is that a rather tighter monetary stance is now needed to bring inflation to target within an acceptable horizon. Leaving the policy rate path unchanged from the March baseline forecast would have meant an even slower return to the inflation target, inviting the risk that inflation expectations would move above target again at the end of the horizon. A crucial factor is the faster depreciation of the króna in the current baseline forecast.

Faster depreciation than in the previous baseline forecast

In March, a minor appreciation of the króna was forecast for the first part of the horizon, gradually unwinding in the latter part of 2008. However, the króna has appreciated by more than was forecast and is currently roughly 10% stronger than at the beginning of this year. As Chart 1 shows, such a strong appreciation was considered fairly unlikely in March. Given the high real exchange rate, the expected persistent current account deficit and higher global long-term interest rates than in the last forecast, underlying downward pressure on the króna has probably increased since the last *Monetary Bulletin*. The current forecast assumes a faster depreciation. At the end of the horizon the exchange rate index stands at 133, having weakened by more than 12% over that period instead of only 6% in the March forecast.

Output gap turns negative earlier due to less output growth and revised potential output

The potential output of the economy has been revised since March. Estimated depreciation of the capital stock has been revised, which changes the underlying growth potential of the economy. The capital stock will hence grow more rapidly than was expected in March. This also implies faster growth of total factor productivity and labour productivity over the next few years. The output growth forecast for 2007 and 2009 has been revised downwards, but is broadly unchanged for 2008. Thus the output gap will close more rapidly and is forecast to turn negative in mid-2008, almost half a year earlier than in the March forecast (Chart 2). Slack will increase until the end of the forecast horizon, then begin to reverse afterwards.

Slower disinflation than forecast in *Monetary Bulletin* 2007/1

Inflation in Q2/2007 turned out higher than was forecast in March, even though the króna appreciated. The forecast for Q2/2007 was 3.5% but the actual rate was one percentage point higher. An even wider divergence is seen for Q3/2007, when the current forecast falls just outside the 90% confidence bands of the March forecast (Chart 3).

Most of this discrepancy is explained by soaring house prices. In March, house prices were forecast to remain virtually unchanged over 2007. Rising petrol prices, higher wage rises and growing wage drift have contributed as well. Persistent inflationary pressures may also indicate that the robustness of the economy in 2006 was underestimated. There are numerous indications that domestic demand growth and output growth were higher than is shown in the preliminary national accounts figures. If so, underlying inflationary pressures would have been underestimated in March, which is reflected in underforecast inflation in the first quarters of this year.

The outlook is therefore for slower disinflation in 2007 than was expected in March. Inflation in Q4/2007 is currently forecast

at 3½%, instead of less than 2% in the March forecast. From the second half of 2008, however, the inflation outlook is broadly the same as in the previous forecast. Thus inflation will move onto target somewhat later, in the first half of 2009 instead of Q3/2007.

Impact on the policy rate path in the baseline forecast

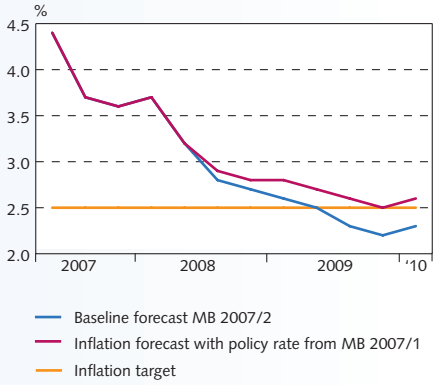
Because the inflation rate has fallen more slowly and inflation expectations have been higher than was expected in March, the real policy rate has edged down since the last *Monetary Bulletin*. The monetary stance is therefore not as tight as previously forecast. In order to offset the weaker real policy rate, higher starting rate of inflation and faster forecast depreciation of the króna, the output gap needs to be closed more rapidly with a larger degree of slack later in the forecast horizon.

However, it would seem difficult to prevent a delayed adjustment back to the inflation target by tightening the monetary stance, since underlying cost pressures are so strong that this can only be achieved with a substantially greater cost in the form of lost output. The stance is therefore tightened by postponing the downward cycle of the policy rate by one quarter and implementing it more slowly. Nonetheless, the policy rate will begin to decline more rapidly later along the horizon and end at a lower level than was forecast in March. This policy rate path is sufficient to bring inflation to target in the first half of 2009, as mentioned above, which will prevent a resurgence of inflation and inflation expectations in spite of a fairly fast depreciation of the króna in the second half of the forecast horizon. The policy rate path used in the baseline forecast in the March *Monetary Bulletin* would have resulted in even slower disinflation, creating a risk that inflation expectations would have moved above the target beyond the horizon (Chart 4).

According to the revised path, the policy rate remains unchanged until early next year, when it gradually lowers. It is just over 11% in Q4/2008, compared with just under 10% in the last *Monetary Bulletin*. In Q4/2009, on the other hand, the policy rate is down to 5% in the current forecast, almost 1 percentage lower than projected in March. The policy rate path lies within the 50% confidence limits of the March forecast (Chart 5).

Chart 4
Inflation

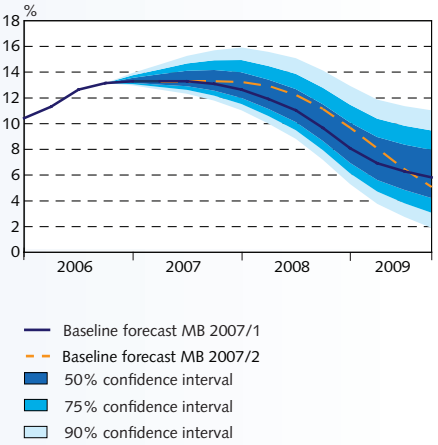
Baseline forecast and forecast with policy rate from MB 2007/1



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 5
Policy rate

Baseline forecast and uncertainty bands MB 2007/1 and baseline forecast MB 2007/2

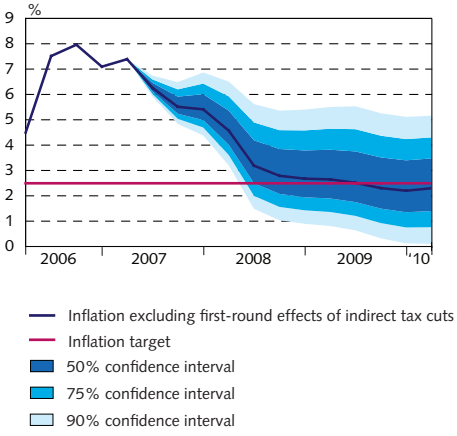


Source: Central Bank of Iceland.

Although a tighter monetary stance is assumed now than in the March forecast, the overview of the main risks in Table IX-1 implies that Central Bank will be more likely to have to raise its policy rate than be able to lower it faster than in the baseline forecast. The risk profile for the policy rate in the baseline forecast is therefore tilted to the upside as in *Monetary Bulletin* in March (Chart IX-7). However, the asymmetry is less pronounced because the revised forecast for exchange rate developments reduces the tilt of the risk profiles for the exchange rate and inflation forecasts. Investments in the aluminium and power sectors, which are assessed in alternative scenarios, also have less impact. These scenarios are discussed in more detail in Box IX-2 on p. 40. They describe possible monetary policy responses to a sharp depreciation of the króna at the end of 2007 following a downturn in global financial conditions, and to a decision to build an aluminium smelter in Helguvík.

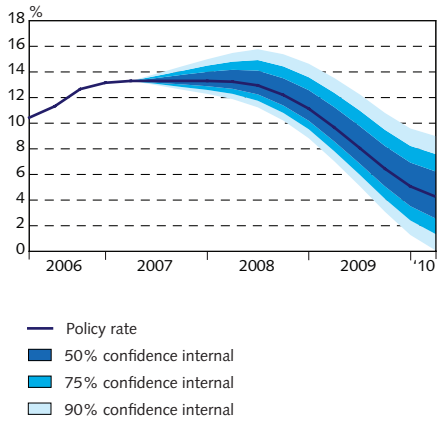
Chart IX-6
Inflation (excluding first-round effects of indirect tax cuts)

Forecasting period: Q2/2007 - Q1/2010



Sources: Statistics Iceland, Central Bank of Iceland.

Chart IX-7
Policy rate
Forecasting period: Q2/2007 - Q1/2010



Source: Central Bank of Iceland.

Given the probability distribution for the policy rate path, there is a high probability that the policy rate will be in the range 12¾-14% on average in Q3/2007 and in the range 12¼-14½% in Q4.[1] Further along the forecast horizon the confidence interval has become very wide, showing the great uncertainty currently surrounding economic developments.

1. Expressed as nominal discounted rate, instead of as an annual yield, which the Central Bank has used hitherto.

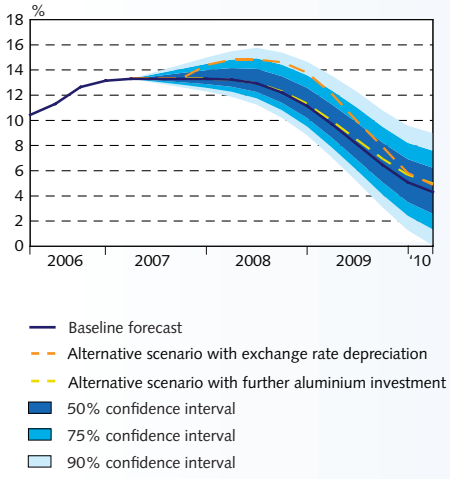
Box IX-2

Alternative scenarios

Unforeseen shocks or significant errors of judgement concerning important underlying assumptions in the forecast and their interaction can cause economic developments to deviate substantially from forecasts. 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 an attempt is made to assess the main sources of error at any time. As in the previous forecast, the exchange rate of the króna and possible new investments in the aluminium and power sectors are considered to be the main sources of uncertainty.

Alternative scenarios highlight the impact that major uncertainties in the baseline forecast could have on inflation and potential monetary policy responses to shocks. The need for responses to unexpected shocks depends upon the credibility of monetary policy. If the Central Bank lacks credibility – i.e. if the Central Bank is not regarded as capable of keeping inflation close to target – it will need to make a stronger response than otherwise. The more credible the monetary policy, the better an anchor it provides for inflation expectations. If inflation expectations are anchored the response can be facilitated more efficiently through market forces and expectations, reducing the need for direct action by the Central Bank itself.

Chart 1
Policy rate – alternative scenarios



Source: Central Bank of Iceland.

In the current climate, a higher policy rate is needed if the króna depreciates sharply

The real exchange rate is currently at a record high and the króna is under pressure from the funding requirement of Iceland's enormous current account deficit and foreign debt, even though part of the deficit will unwind within the forecast horizon when investments for the aluminium industry come to an end and exports from them enter full swing. Nonetheless, the króna has remained strong and has appreciated since the last forecast in March. The wide interest rate differential and the Central Bank's clear message that the tight monetary stance will continue have supported the króna.

Arguably, the risk of a sharp depreciation of the króna has increased since the last forecast. The baseline forecast therefore projects a faster depreciation of the exchange rate than was expected in March. In the current economic climate, however, there is a considerable risk that imbalances will unwind even faster. As in *Monetary Bulletin* in March, an alternative scenario is presented in

which a substantial depreciation of the króna takes place. However, it occurs roughly one quarter later, in Q4/2007 and Q1/2008. It assumes a total depreciation of 20% and an increase in the spread on Icelandic residents' foreign liabilities of 1½ percentage points, as in the last *Monetary Bulletin*. The timing is not a forecast but is merely chosen to allow the impact of the shock and the response to it to be captured within the forecast horizon. Such a sequence of events could conceivably be sparked off by rising international investor risk aversion and global interest rates.

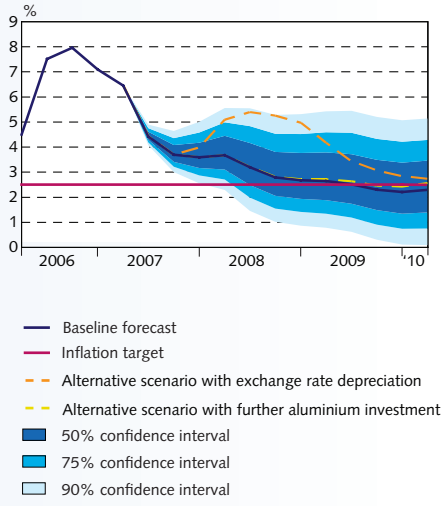
Chart 1 shows the Central Bank's possible response to such a shock. The policy rate is raised immediately by almost one percentage point in Q4/2007 and eventually by a total of 1½ percentage points, to prevent the inflation spike from taking root in expectations. Accordingly, the policy rate rises to just above 14¾% in mid-2008, when it begins to move down again. The policy rate remains higher than in the baseline forecast throughout the horizon. Nonetheless, it does not need to be raised by as much as in the alternative scenario in *Monetary Bulletin* in March, because of the smaller output gap when the shock is felt. This is because the output gap estimate has been revised downwards and the depreciation occurs at a more mature stage of the cycle, when it is smaller than in the previous scenario.

However, this sharp rise in the policy rate does not suffice to prevent a temporary surge in inflation in the wake of the depreciation (Chart 2). Inflation peaks in mid-2008 at 5½% instead of just over 3% in the baseline forecast. It gradually wanes and reaches target at the end of the forecast horizon, roughly a year later than in the baseline forecast.

The purpose of responding to the depreciation with a policy rate hike is not to bolster the exchange rate as such, but to prevent higher inflation from severely eroding the real policy rate and to create a credible anchor for inflation expectations in spite of this spike. Thus the timing of a possible depreciation of the króna is crucial. If it occurs in the current climate of overheating, there is more risk that it will have a lasting effect on inflation than when the factors of production are not fully utilised.

Another major consideration is the source of the depreciation. If it is caused by a negative supply shock (e.g. a negative terms of trade shock), a milder response is called for than if it is driven by a portofolio shock. A negative supply shock dampens general demand, which counteracts the inflationary effects of the depreciation and thereby creates less need for a policy rate hike – and increasingly so, the more firmly that inflation expectations are anchored.

Chart 2
Inflation – alternative scenarios



Sources: Statistics Iceland, Central Bank of Iceland.

The Helguvík aluminium smelter project delays policy rate cuts

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 estimate their impact in alternative scenarios. If plans for large-scale investments materialise, demand for domestic factors of production will increase by more than in the baseline forecast. Inflation pressures will be correspondingly greater, although possibly tempered by the stronger króna, at least initially.

Since *Monetary Bulletin* in March, Alcan's plans to expand its smelter at Straumsvík have been rejected in a local referendum. Century Aluminium's plans to construct an aluminium smelter in Helguvík, on the other hand, appear to have gained momentum. Other options being discussed are at such an early stage that they would probably fall partly or entirely outside the current baseline forecast horizon. The following alternative scenario is therefore confined to

the impact of the proposed Helguvík smelter and possible monetary policy responses to its construction.

Investment plans for the Helguvík smelter and power supply for it are broadly unchanged from the alternative scenario in *Monetary Bulletin* in March. This assumes the construction of a 240 thousand-tonne smelter in Helguvík in two equal phases. The Central Bank estimates the total cost at 120 b.kr. (roughly 10% of GDP in 2006). Construction is expected to begin in 2008, with the first phase completed in 2011 and the second in 2013. Activity will mainly be concentrated into the period 2009-2011, when it accounts for 70% of the total cost. Aluminium production is assumed to go on stream in 2011 and reach full capacity in 2014. Increased labour use required by these investments is assumed to be just over 1,300 man-years within the forecast horizon, and 3,200 man-years in total over the period 2007-2014. Domestic cost is expected to be marginally more than foreign cost, with a similar distribution between domestic and foreign labour. The scenario is largely based on plans announced by prospective developers.

Although the króna is not expected to appreciate significantly when the go-ahead for construction is announced – unlike the alternative scenario in March – the króna remains stronger across the remainder of the forecast horizon. The policy rate is reduced rather more slowly than in the baseline forecast, but because the economic impact of the investments would not be felt until 2008-9, the impact on monetary policy would be limited until well into 2008 (see Chart 1). The policy rate is roughly one-quarter of a percentage point higher than in the baseline forecast in Q4/2008 and three-quarters of a percentage point higher at the end of the forecast horizon. This policy rate path prevents inflation from rising again later in 2010 and into 2011, unlike the path in the baseline forecast (Chart 2). The policy rate path has changed from the alternative scenario in *Monetary Bulletin* in March, because the investments would be on a much smaller scale and peak later than assumed then. Also, the economy has more scope for absorbing the investments without a strong crowding-out effect on other sectors. Thus there would be less need to tighten the monetary stance compared with the baseline forecast than in the alternative scenario presented in March.

Appendix 1

Baseline macroeconomic and inflation forecast 2007/2

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 (4.6)	1.0 (0.2)	-3.2 (-4.1)	-5.3 (-5.7)
Public consumption	280.7	2.9 (2.9)	3.0 (3.0)	3.0 (3.0)	3.0 (3.0)
Gross fixed capital formation	365.6	13.0 (13.0)	-25.6 (-22.4)	-15.8 (-22.7)	-8.9 (-5.8)
Business sector investment	255.6	13.8 (13.8)	-37.7 (-30.8)	-30.2 (-38.9)	-14.1 (-10.8)
Residential construction	74.8	17.2 (17.2)	1.2 (-4.6)	-9.2 (-8.9)	-9.9 (-8.7)
Public works and buildings	35.2	0.8 (0.8)	5.9 (-2.1)	37.7 (39.7)	4.5 (9.6)
National expenditure	1,346.1	7.4 (7.4)	-6.2 (-5.6)	-4.6 (-6.9)	-4.3 (-3.8)
Exports of goods and services	372.2	-5.6 (-5.6)	12.0 (9.6)	9.5 (16.7)	5.5 (4.5)
Imports of goods and services	576.5	8.8 (8.8)	-9.0 (-10.4)	-4.9 (-5.1)	-2.1 (-2.3)
Gross domestic product	1,141.7	2.6 (2.6)	0.2 (0.8)	0.8 (0.7)	-1.4 (-1.0)
Other key aggregates					
Current account balance (% of GDP)		-26.9 (-26.7)	-15.4 (-15.7)	-11.5 (-11.4)	-8.8 (-11.3)
Current account balance (% of GDP)		3.3 (3.2)	0.4 (1.0)	-0.7 (0.3)	-3.4 (-2.0)
Unit labour cost (change between annual averages in %)		8.9 (8.9)	7.8 (6.8)	3.4 (3.9)	3.5 (3.8)
Real earnings (change between annual averages in %)		6.5 (6.5)	5.0 (4.7)	-2.2 (-2.8)	-1.5 (-3.1)
Unemployment (% of labour force)		1.3 (1.3)	1.5 (2.0)	3.0 (3.5)	4.3 (4.8)
Policy rate and exchange rate					
Central Bank policy interest rate (%)		11.9 (11.9)	13.3 (13.2)	12.4 (11.3)	7.3 (6.8)
Foreign exchange index (Dec. 31. 1991 = 100)		121.4 (121.4)	117.4 (121.0)	119.5 (120.8)	127.9 (125.4)

1. Figures in parentheses show forecast in *Monetary Bulletin* 2007/1.

Table 2 Inflation forecast

	Change on same period of previous year (%)		*Annualised quarterly change (%)*
	Forecast MB 2007/2	*Forecast MB 2007/1*	*Forecast MB 2007/2*
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	7.1	2.3
2007:1	6.5	6.4	2.0
	Forecast value		
2007:2	4.4	3.5	5.9
2007:3	3.7	2.0	4.6
2007:4	3.6	1.7	1.9
2008:1	3.7	2.0	2.4
2008:2	3.2	2.4	3.9
2008:3	2.8	2.3	3.0
2008:4	2.7	2.4	1.5
2009:1	2.6	2.6	2.2
2009:2	2.5	2.7	3.4
2009:3	2.3	2.6	2.1
2009:4	2.2	2.5	1.1
2010:1	2.3	.	2.6

Change year-on-year	*Forecast MB 2007/2*	*Forecast MB 2007/1*
2006	6.8	6.8
2007	4.5	3.4
2008	3.1	2.3
2009	2.4	2.6

Appendix 2

New inflation-targeting countries[1]

The number of countries formally committed to an inflation target as the anchor of their monetary policy has increased rapidly since New Zealand pioneered inflation targeting in March 1990. Inflation-targeting countries are now found in all parts of the world. Inflation targeting stipulates price stability as the formal objective of monetary policy and subordinates other objectives to it. Price stability is defined as a numerical target. Macroeconomic and inflation forecasts tend to play a key role in the conduct of monetary policy with an inflation target, and transparency is an increasingly important feature in communication of policy objectives and implementation. The reason for the growing appeal of formal inflation targeting lies in its success in creating a credible and transparent anchor for monetary policy. At the same time, it leaves monetary policy flexible enough to respond to short-term cyclical fluctuations in the economy without jeopardising credibility.

To date, a total of 28 countries have adopted inflation targeting. Some 26 still target inflation, after Finland and Spain abandoned the regime on joining the European Economic and Monetary Union (EMU) in January 1999. The first inflation target was adopted in 1990; by the end of 1993, five countries formally targeted inflation and five years later their number had grown to ten. In 2004 there were 21, and another five have since joined the group: the developing and emerging market economies of Slovakia, Indonesia, Romania, Turkey and Ghana. This Appendix discusses these five new inflation-targeting countries.

Slovakia

Slovakia acceded to the European Union in 2004. Membership also involved a commitment to join the monetary union and adopt the euro in the future. Countries in the euro area must first fulfil the Maastricht convergence criteria on inflation, interest rates, annual government deficit and government debt. The National Bank of Slovakia formally moved onto an inflation target at the beginning of 2005, viewing this framework as most suitable for fulfilling the Maastricht inflation criterion. The National Bank of Slovakia's current target is to achieve a rate of inflation below 2%, the same as the European Central Bank (ECB). This is consistent with the Maastricht criterion for a rate of inflation no more than 1.5 percentage points higher than in the three EU best-performing countries. In May 2007, inflation in Slovakia measured 2.7%. Slovakia aims to introduce the euro on January 1, 2009.

1. Information on new inflation-targeting countries is sourced from the respective central bank websites. Background information on the evolution of inflation targeting and minimum conditions for adopting it draw on Pétursson, Thórarinn G. (2004), Formulation of inflation targeting around the world, *Monetary Bulletin* 2004/1, 57-84 and Stone, Mark R. (2003), Inflation Targeting Lite, *IMF Working Paper* WP/03/12.

Indonesia

After the Asian financial crisis in the latter part of the 1990s, the Indonesian authorities restructured their banking system and institutional framework. The policy interest rate (BI rate) became a more effective tool against inflation as a result, and Bank Indonesia decided to adopt a formal inflation target in July 2005. It had previously targeted base money, but that proved difficult to control, given that the dominant component is currency outside banks. Bank Indonesia's target is set at 6% for 2007 and 5% for 2008, with a band of ±1% for both years. In May 2007, inflation in Indonesia measured 6%. BI aims to achieve a medium- to long-term inflation rate of 3% so that Indonesia can remain competitive with other countries in Asia.

Romania

After an adjustment phase including institutional reforms to meet the requirements entailed by inflation targeting, the National Bank of Romania formally switched to an inflation target in August 2005. The primary aim of targeting was to drive down inflation and maintain price stability after the target was achieved. A target of 4% was set for 2007 and will be lowered to 3.8% in 2008, with a deviation band of ±1% for both years. Inflation has declined after the adjustment began, which has contributed towards anchoring inflation expectations at a lower rate. In April 2007, inflation in Romania measured 3.8%.

Turkey

The Central Bank of the Republic of Turkey (CBRT) aims to emulate the achievement of developed economies in bringing persistent inflation down to a low and stable level. In order to do so, the CBRT formally moved onto an inflation target at the beginning of 2006. It has set a medium-term target of 4% with a ±2% deviation band. In the first year under the new framework, inflation overshot the target. The CBRT has responded by raising its policy rate, which is higher than Iceland's, and by increasing transparency in order to have more effect on inflation expectations. One step towards transparency is that "the Central Bank shares its forecast about monetary policy verbally with the public." Nonetheless, inflation in Turkey is still well above target, at 9.2% in May 2007.

Ghana

The Bank of Ghana formally adopted an inflation target in May 2007, becoming the second African country to do so (after South Africa). For several years previously, the Bank of Ghana had targeted inflation informally. It has been increasing its transparency and now aims to publish inflation reports. The Bank's target is for a rate of inflation below 10%. Inflation in May 2007 was 11%.

Foreseeable changes in the number of inflation-targeting countries

The number of inflation-targeting countries is bound to change in the next few years. Slovakia will leave the group after some years when it adopts the euro, together with Poland, the Czech Republic and Hungary. Others will possibly follow suit later.

Inflation-targeting countries

Country	*Numerical target*	*Date of adoption*	*Previous anchor*
Australia	2-3%	1993	None
Brazil	4½%(±2%)	1999	Exchange rate
Canada	1-3% (2% central value)	1991	None
Chile	2-4%	1990	Exchange rate
Columbia	2-4%	1999	Exchange rate
Czech Republic	3%(±1%)	1998	Exchange rate & money supply
Ghana	0-10%	2007	Money supply
Hungary	3%(±1%)	2001	Exchange rate
Iceland	2½%(±1½%)	2001	Exchange rate
Indonesia	6%(±1%)	2005	Money supply
Israel	1-3%	1992	Exchange rate
Mexico	3%	1999	Money supply
New Zealand	1-3%	1990	None
Norway	2½%	2001	Exchange rate
Peru	2%(±1%)	2002	Money supply
Philippines	4-5%	2002	Exchange rate & money supply
Poland	2½%(±1%)	1998	Exchange rate
Romania	4%(±1%)	2005	Money supply
Slovakia	0-2%	2005	Exchange rate
South Africa	3-6%	2000	Money supply
South Korea	3%(±1%)	1998	Money supply
Sweden	2%(±1%)	1993	Exchange rate
Switzerland	0-2%	2000	Money supply
Thailand	0-3½%	2000	Money supply
Turkey	4%(±2%)	2006	Exchange rate
UK	2%	1992	Exchange rate

Sources: Pétursson, Thórarinn G. (2004), Formulation of inflation targeting around the world, *Monetary Bulletin* 2004/1, 57-84. Stone, Mark R. (2003), Inflation Targeting Lite, *IMF Working Paper* WP/03/12. Central bank websites.

Likewise, other countries may move onto an inflation target. A growing number are currently examining the introduction of targets and several have already launched preparations for formally adopting them. These include the developing and emerging market economies of Albania, Armenia, Guatemala and Kazakhstan, which already have price stability as a stated objective but have yet to adopt a formal inflation target.[2] Fairly lengthy preparations are required before moving onto an inflation target, because central banks must first adapt their own activities to the new policy. Preferably, minimum institutional requirements should be in place before an inflation target is formally adopted. An important consideration is that a central bank should have full independence for attaining its objectives. Also, the domestic financial sector needs to be efficient and developed enough for the central bank's monetary policy measures to be transmitted effectively. Other important fundamentals are financial stability and general economic stability. Although Albania, Armenia, Guatemala and Kazakhstan are at different stages in the adaptation process, they share the aim of for-

2. Stone (2003) discusses 19 emerging market economies with flexible exchange rate regimes and a publicly announced inflation target, but which have higher-ranked objectives than price stability, and terms them "inflation targeting lite".

mally adopting an inflation target in the near future. Thus these four countries are likely candidates to join the inflation-targeting fraternity within a very few years, and others could join them.

Financial markets and Central Bank measures[1]

The króna appreciates and equity prices rise

The króna and other high-yielding currencies have continued to appreciate since Monetary Bulletin *was published at the end of March. At the same time, low-yielding currencies such as the yen and the Swiss franc have depreciated and been a lucrative source of carry trades. Global interest rates have risen and Iceland's interest rate differential with abroad has narrowed, but not enough to reduce position-taking in the króna. Treasury bond issues have decreased, especially in Europe, and investors have sought out opportunities in emerging market and developing countries on a growing scale. This development may also be one explanation for the appetite for glacier bonds. The Central Bank of Iceland changed its presentation of the policy rate from annual yield to nominal discounted rate in June, bringing it into line with general central banking practice. Equity prices in Iceland and elsewhere are rising steadily and leading indices in Europe and the US are at or close to a historical peak. Iceland's OMXI15 index is at a record high.*

Policy interest rate

The Central Bank of Iceland has not changed its policy interest rate since December 2006. Policy rates have been raised in the UK, the euro area, Sweden, Norway and Denmark since *Monetary Bulletin* was published in March, but they have been left unchanged in Japan and the US. Thus Iceland's interest rate differential with abroad has narrowed slightly.

Changed presentation of the policy rate

The Central Bank recently changed the presentation of its policy rate, bringing it into line with general central banking practice which is to state a nominal rate instead of annual yield. The nominal rate is discounted and, stated in the new terms, is now 13.3%, which corresponds to an annual yield of 14.25%, the rate that the Central Bank has quoted hitherto. New Rules on Central Bank Facilities for Financial Undertakings also entered into force, replacing a framework from December 2004. They do not entail major changes to arrangements. However, three points should be noted:

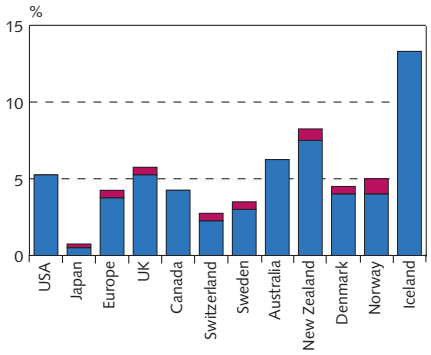
1. Regular facilities with the Central Bank are now termed collateral loans, which is technically more accurate. In earlier rules they were known as repurchase agreements, even though they were strictly speaking collateral loans.
2. The business day for collateral loan facilities has been moved from Tuesday to Wednesday.
3. The haircut on the reference price of eligible collateral securities for loans has been reduced by 1-2% in the case of Treasury issues. The maximum haircut is now 5% of the value of bonds with a maturity of longer than 5 years, but was previously 7%.

Rating requirements for eligibility of collateral, minimum issue size and market making are unchanged.

Money market in balance

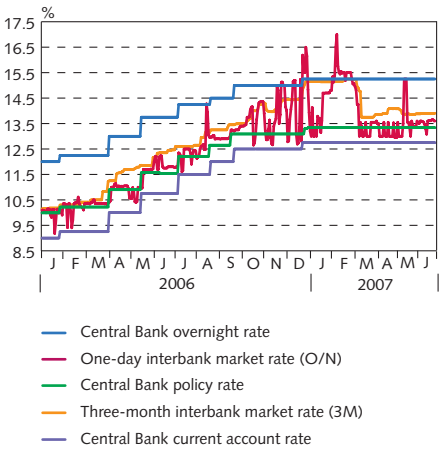
The domestic money market has been in better balance after the definition of eligible collateral for Central Bank facilities was broadened, as described in *Monetary Bulletin* in March. Minimum required reserves

Chart 1
Increases in selected central banks' policy interest rates since MB 2007/1[1]



1. The red part of the column shows the increase since the last *Monetary Bulletin* was published in March 2007. The policy rate varies between countries and can refer to either lending or deposit rates.
Source: Reuters.

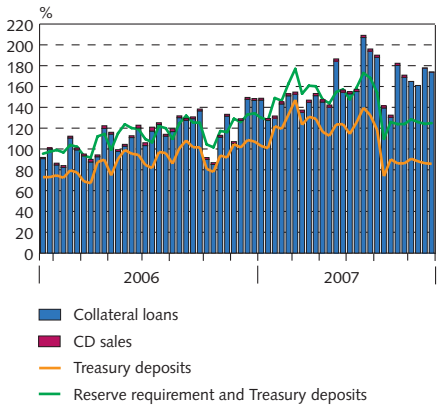
Chart 2
Interest rates in the interbank market and Central Bank policy rate
Daily data May 22, 2006 - June 28, 2007



Source: Central Bank of Iceland.

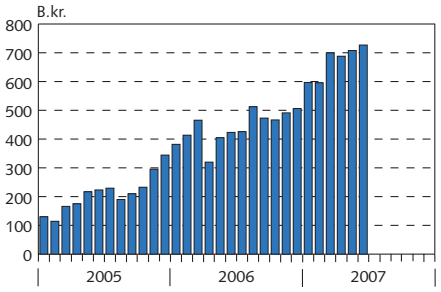
1. This article uses data available on June 29, 2007.

Chart 3
Collateral loans, CD sales, Treasury deposits and reserve requirement
Weekly data May 23, 2006 - June 27, 2007



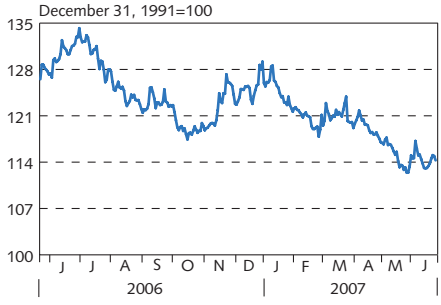
Source: Central Bank of Iceland.

Chart 4
Forward currency position of the commercial banks
At end of month January 2005 - June 2007



Source: Central Bank of Iceland.

Chart 5
Exchange rate index of the króna
Daily data May 22, 2006 - June 28, 2007



Source: Central Bank of Iceland.

have grown in pace with the increase in deposits in the banking system, while credit institutions' demand for collateral loans has shown sharp weekly fluctuations. Money market interest rates have been fairly stable and generally well within the Central Bank's rate corridor. Liquidity was tight on one occasion during the period, after an unexpected change in the Treasury position.

The balance on the Treasury's current account in the Central Bank dropped sharply when the Treasury deployed 44 b.kr. to strengthen the Bank's capital in May. Because the Treasury's balance has exceeded forecasts, it has added to its deposit in the Central Bank if this capital contribution is excluded.

High gains on carry trades

Carry trades with the króna have been continued to be profitable since the end of March. High-yielding currencies have appreciated and low-yielding currencies such as the yen and Swiss franc have depreciated at the same time. The króna has appreciated by 5% while the yen has depreciated by 5% and the Swiss franc by 3%. Position-taking in the króna which is financed with yen and Swiss francs in equal proportions has therefore yielded an exchange rate gain of 9%, on top of an interest rate differential amounting to 3 percentage points over that period.

The króna appreciated almost continuously from Easter until June. Exchange rate volatility was at a low until the Marine Research Institute's recommendations for a cut in the cod quota sent a mild tremor through markets, causing the króna to slip somewhat.

Brisk glacier bond issuance

A sizeable volume of glacier bonds has been issued net of maturities. Issuance from the beginning of the year has amounted to 174 b.kr., while bonds in the nominal value of 54.1 b.kr. have matured. The total outstanding glacier bond stock is currently 383.5 b.kr. Bonds to the value 82.5 b.kr. will mature in September 2007. This is the largest maturity in a single month to date, and is large relative to the size of both the market and Iceland's economy. Some market impact cannot be ruled out, but hitherto glacier bond maturities have not had a noticeable effect on the exchange rate of the króna. This is consistent with the experience of other countries, since many investors manage their risks through the FX and money markets and do not defer their decisions to wait for individual assets in their portfolios to mature.

The banks' foreign currency-denominated assets, i.e. in forwards and options, provide an indication of how position-taking in the króna is developing. At the end of June, the banks' total foreign currency-denominated assets amounted to 727 b.kr., an increase of 112 b.kr. since the end of February. Virtually all the addition was made in March and the position has changed little since. In foreign currency terms the increase is even greater, due to the appreciation of the króna over the period.

Decrease in foreign reserves

The Central Bank's foreign reserves have decreased by the equivalent of 10 b.kr. since the end of March. While the main factor at work was a 5% appreciation of the króna, the final instalment on a Treasury

foreign loan amounting to €50 million (4.2 b.kr.) was also paid. The next maturity of a Treasury foreign loan is in May 2008, amounting to €150 million (13 b.kr.).

The Central Bank makes weekly purchases of 6 million US dollars in the interbank market. Currency is used to meet Treasury foreign debt service and any remainder is used to strengthen the Bank's foreign reserves.

Side-effects of lower Treasury debt

The small size of the outstanding Treasury note stock has created illiquidity in the domestic bond market. Strong Treasury surpluses in recent years have reduced the need for domestic issuance and its low debt position is a clear strength. Accordingly, the Treasury has been reluctant to issue debt instruments, desirable as this may be from a market viewpoint.

It is interesting to examine responses to decreasing Treasury debt in the other Nordic countries, where a similar development is taking place. Thanks to oil revenues, the Norwegian Treasury has no funding requirement, but its policy has nonetheless been to maintain combined issuance of domestic currency Treasury bills and government bonds for the equivalent of 10% of GDP. It merely views providing the financial markets with a risk-free interest rate path as a public good. Sweden and Denmark are in a similar position. Sweden's Treasury debt is currently equivalent to 40% of GDP and looks set to drop to 30% by 2009. The reduction could be even greater if the Swedish government goes ahead with its privatisation policies. In Denmark, Treasury debt is equivalent to 16% of GDP and is expected to fall to 12% by the end of 2008.

Denmark and Norway have ceased all bond issuance in foreign currencies and Sweden is likely to follow suit. Thin markets are already a concern in Denmark and Norway and Sweden foresees a similar development although the situation there is not yet tight. Around one-fifth of Swedish Treasury debt is denominated in foreign currency and 25% in indexed bonds. This would allow a sizeable amount of Treasury debt to be retired before depleting the issues that form the risk-free nominal interest rate path in Swedish domestic currency. In Denmark, the number of issues has been reduced in order to ensure a certain degree of depth. Issuance of bills and notes with maturities of less than 5 years has been discontinued.

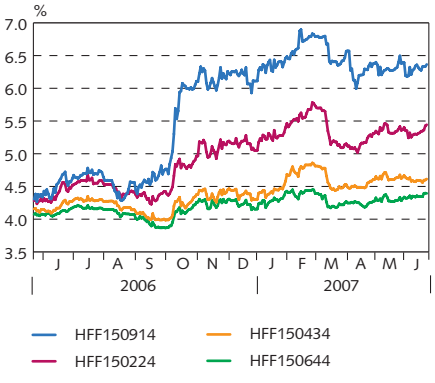
Iceland's small economy means that market liquidity will always be tight, compared with other countries. Total Treasury debt in Iceland is equivalent to 25% of GDP and domestic debt 12%. The market value of the total outstanding stock of T-notes, T-bills and government bonds amounts to 133 b.kr, compared with a stock of Treasury instruments of 210 billion DKK (equivalent to 2.350 b.kr.) in Denmark and 210 billion NOK (2,270 b.kr.) in Norway.

The critical size for an issue in order to achieve liquidity is difficult to estimate. In the euro area, the liquidity threshold for any Treasury issue is generally considered to be €5 billion. This amount corresponds to four times the Icelandic Treasury's domestic debt and double its total debt. Iceland can hardly be expected to produce an issue of such a size. However, reducing the current number of issues and expanding their size would surely deepen the domestic markets and improve price

Chart 6
Gross reserves and gross central government foreign debt
Quarterly data, Q1/2001 - Q1/2007

Source: Central Bank of Iceland.

Chart 7
HFF bond real yields
Daily data May 22, 2006 - June 28, 2007



Source: Central Bank of Iceland.

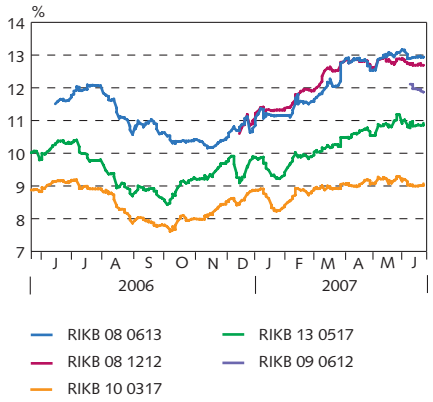
formation in them. The National Debt Management Agency (NDMA) has discontinued indexed issues and since 2006 has been buying back indexed government bonds. Retirement of foreign debt has been another Treasury focus in recent years. No sign of any change in this policy is in sight.

Measures such as market making agreements and the NDMA's securities lending arrangements enhance price formation. By stepping up its securities lending, the NDMA has boosted turnover in the market for Treasury instruments relative to the outstanding Treasury bond stock. Further depth could be added by establishing an organised stock lending market. By participating in such a market, pension funds, mutual funds and other holders of bonds could improve financial market depth, price formation and returns on their investment portfolios.

An active bond market is important not only from financial market and monetary policy perspectives. The market is also an instrument for the Treasury to procure capital. A deeper market would facilitate the Treasury in procuring prime-rate funds whenever required.

The decreasing debt of Treasuries, and thereby their decreasing issuance, raises questions about whether other players could perform the function of providing the market with risk-free interest rate paths. Asset-backed security portfolios come closest in terms of counterparty risk. Real estate is considered one of the safest forms of collateral available and securitised structures have enabled Icelandic financial institutions to achieve top ratings for such portfolios.

Chart 8
Treasury note yields
Daily data May 22, 2006 - June 28, 2007



Source: Central Bank of Iceland.

Yields high in spite of negative news

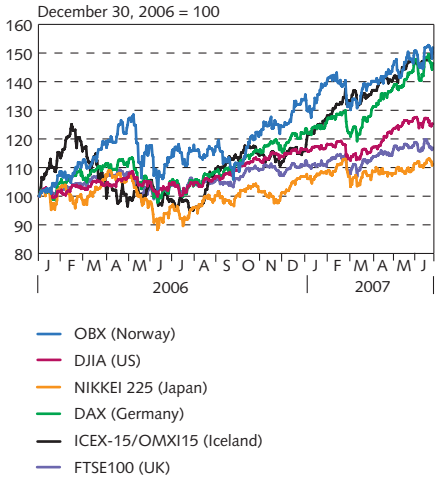
In spite of a temporary dip in bond yields at the beginning of June in response to news about recommendations of fishing quota cuts and the contraction in GDP, they are still higher than since *Monetary Bulletin* was published at the end of March.

Equity market

Equity prices have continued to climb. They are currently at a historical peak and no end appears to be in sight to upbeat market sentiment. International equity market prices have also risen in the recent term and have reached historical highs in Europe and the US.

In June, the oldest bank in the Faroe Islands, Føroya Bank, was listed simultaneously on the OMX Exchange in Iceland and Denmark. Listing followed privatisation of the bank by the Faroese home rule government

Chart 9
Development of selected share indices
Daily data Jan 1, 2006 - June 28, 2007



Source: Reuters.

R&I assigns Treasury rating

The Japanese rating agency R&I announced its first credit rating for the Republic of Iceland, assigning it a foreign currency issuer rating of AA+. R&I operates primarily in the Japanese market but is also approved by the SEC in the US. Sovereign ratings set the ceiling for possible ratings by other issuers from the same country. R&I rated the Republic of Iceland on its own initiative and without this being requested by the Icelandic authorities, in connection with its rating for Kaupthing. R&I is the fourth agency to assign a rating to the Republic of Iceland. The Republic's corresponding ratings are Aaa from Moody's and A+ from S&P and Fitch Ratings.

Daníel Svavarsson and Pétur Örn Sigurdsson[1]

Iceland's international investment position and balance on income

Iceland's international investment position (IIP) has changed sharply in the recent term. Both foreign assets and liabilities have mushroomed in the space of a very few years, but liabilities by considerably more than assets. Thus as a proportion of GDP, net IIP is very negative and net foreign liabilities at one of the highest levels in the world. At the same time as foreign liabilities have grown, net interest and dividend payments to abroad have soared and weigh heavily in the current account deficit. Doubts have been raised about the reliability of the data underlying estimates for net IIP and the current account deficit, including the presence of inconsistencies between flows and balances. It has sometimes been claimed that Iceland's foreign assets have been greatly underestimated and to some degree miscalculated.

This paper discusses the development of Iceland's foreign assets and liabilities in recent years and their relationship with the balance on income. It describes methodologies for recording data and attempts to identify possible shortcomings that could explain inconsistencies. Many countries are tackling comparable problems and the findings of international research in this field are discussed in the light of Iceland's situation.

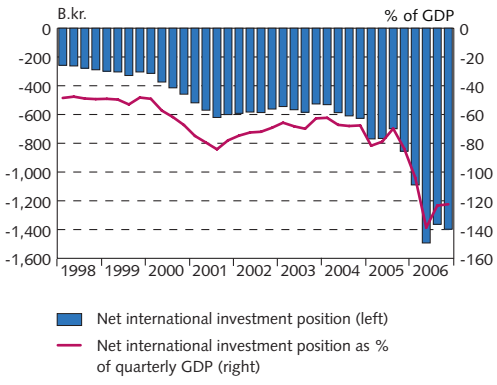
The authors' finding is that the compilation of balance of payments and IIP statistics is consistent with international standards and practices. Nonetheless, under certain circumstances it is apparent that the current methodology for estimating portfolio returns and net investment stock does not produce a sufficiently comprehensive picture. If changes in portfolio value were included in the balance on income, for example, the current account deficit for 2006 would have been significantly smaller than under the current methodology, but for 2005 it would have been larger. In the authors' view, communication might be enhanced by presenting estimates for net investment stock using the current cost method and market value method, alongside the IIP in its current form.

Introduction

Iceland's total foreign liabilities amounted to 5,916 b.kr. at the end of 2006, and foreign assets 4,518 b.kr. The net international investment position (IIP) was therefore negative by 1,397 b.kr., equivalent to 122% of GDP (see Chart 1). The net debt position, i.e. net liabilities excluding venture capital, was negative by 2,371 b.kr., equivalent to more than double GDP for that year.

As foreign assets and liabilities have grown, so has the share of the balance on income in the balance of payments over the past few years. Only a very few years ago merchandise trade dominated the balance of payments, but the income account has swollen following the liberalisation of capital movements and Iceland's increasingly globalised trade. Income receipts amounted to less than 7 b.kr. in 1996 but exceeded 167 b.kr. in 2006. Exports of goods and services barely doubled over the same period. Income expenditures, however, have outstripped receipts, growing from 18 b.kr. in 1996 to 268 b.kr. in 2006. The deficit on income accounted for roughly one-third of the current account deficit in 2006.

Chart 1
International investment position
Q1/1998 - Q4/2006



Sources: Statistics Iceland, Central Bank of Iceland.

1. Daníel Svavarsson is an economist at the Central Bank of Iceland Economics Department and Pétur Örn Sigurdsson an economist at the Statistics and IT Department. They would like to thank Arnór Sighvatsson, Ásgeir Daníelsson, Jakob Gunnarsson, Tómas Örn Kristinsson and Tryggvi Pálsson for their comments on earlier drafts of this paper. The authors bear sole responsibility for any errors that may remain. The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Central Bank of Iceland.

The scale of foreign investment and borrowing is not the only factor impacting Iceland's net IIP. In addition to these annual flows, two items are particularly important. First, the revaluation of foreign assets and liabilities in order to account for changes in the exchange rate and market value. Heavy foreign indebtedness heightens exposure to exchange rate volatility, which increasingly depends on foreign investor sentiment about the economic situation in Iceland. Second, returns on different classes of assets and debts vary, and so do asset risks, compounded by the fact that the methodology estimates of the value of assets depends upon their type. If the composition of the outward and inward investment stock differs, a mismatch can result between their respective returns. Thus net income might be heavily imbalanced even if the net investment position is close to balance. Different methodologies are used in revaluations of different components of the investment stock, and the same applies to estimates of returns. Thus the composition of assets and liabilities may affect the extent to which recorded statistics reflect their overall market value. This paper describes the development and composition of Iceland's foreign assets and liabilities, and how they are related to changes in the current account balance.

Box 1

Definitions of key concepts

Foreign assets and liabilities are classified according to the nature and scale of the investment in accordance with International Monetary Fund standards (IMF 1993). This Box explains the main concepts and their context in calculations of IIP.

Marketable securities. Investment by residents[1] in foreign equities and by non-residents in Icelandic equities is classified as portfolio investment provided that it does not exceed 10%. Units in mutual funds and debt instruments (bonds and notes) are also classified as portfolio investment.

Direct investment. If an investor acquires an active holding (defined as 10% or more of the equity capital), this is classified as direct investment. Once a direct investment relationship is established between a resident and non-resident company, all capital transactions between them are classified as direct investment, including loan transactions between a parent company and its affiliates.

Financial derivatives are swaps, forwards and futures, and options. Financial derivatives are inherently balanced on the asset and liability side when contracted, but a spread might occur due to price changes on settlement.

Other investments include trade credits and loans, currency and deposits.

Reserve assets are defined as foreign assets of the Central Bank which are accessible for intervention in the FX market.

1. Based on the domicile/residence of the investor.

The stock of foreign direct investment (FDI) is entered at book value while the annual FDI flow is recorded at transaction value.[2] A considerable discrepancy can occur between these two values when large shareholdings are acquired at a premium which the buyer decides to amortise on purchase. The investment is then entered in the balance sheet at the investor's book value rather than transaction value. Portfolio investments are entered at market value at the time of the transaction and the portfolio stock is stated at current market value.

Balance of payments
The balance of payments is divided into the capital and financial balance and the current balance.

Capital and financial balance = direct investment + portfolio investment + other capital + foreign reserves
The capital and financial balance shows flows of foreign assets and liabilities classified into direct investment, portfolio investment, other investment and the Central Bank's foreign reserves.

Current account balance = merchandise account + services account + balance on income + transfers
The current account balance shows exports and imports of goods and services, together with income and transfers.

Balance on income = dividends on equity investment + reinvested earnings + accrued interest + compensation of employees
The balance on income comprises dividends and reinvested earnings from direct and portfolio investment, accrued interest on other investments and compensation paid to employees by employers in other countries. *Reinvested earnings* are total consolidated profit after dividends have been paid to shareholders and are defined as an additional investment in the case of companies in which the shareholding is classified as direct investment (i.e. more than 10%). Such an investment increases the company's equity capital. Likewise, an operating loss produces a negative return and depletes the equity capital. Dividend payments can also be so high that reinvested earnings are negative. A profit on a resident business owned by non-residents is entered as an expenditure in the balance on income. The sole purpose of the aggregation into dividends and reinvested earnings is to specify these expenditures. Current income and expenditures are therefore entered in the account irrespective of whether they take the form of a dividend payment or a reinvestment in the same company.

In the capital and financial account, securities investments are divided into equities and debt instruments. Investments in foreign equities for a shareholding of less than 10% are classified as portfolio investments. The return on such investments is captured in the balance of payments as dividend payments. Under the IMF methodology, an increase in the market value of such investments is not included, even if investors post such a rise in market value as income.

Income on debt instruments is accrued interest. For other investments, interest earned on loans to non-residents is also included in the balance on income. The only investment on which interest is not calculated is claims.

2. In their methodologies, the OECD and IMF recommend recording FDI at market value, while acknowledging the difficulties involving the valuation of unlisted companies. Lack of reliable data has hitherto hindered most countries, including Iceland, from recording FDI at market value. For comparability of data it is preferable that as many countries as possible agree on applying either market value or book value.

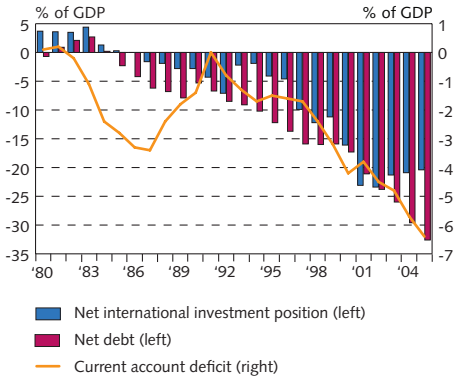
Issues regarding recording of foreign trade

Estimates of the balance of payments and IIP are based on international standards. Globalisation and the meteoric growth of cross-border capital flows have complicated data collection from so many different sources and slowed down processing of statistics. Thus in many cases the international standards are difficult to meet. Standards have come in for critical discussion in recent years. It has been pointed out that marked discrepancies can occur if the relative importance of direct and portfolio investment differs between countries. The diverse methodologies used to estimate these investments have a sizeable effect on the balance on income, as discussed later. The following section highlights certain questions and issues that have arisen in many countries including the US, UK, Sweden and New Zealand. It describes the findings of leading research in this field and examines the different underlying viewpoints.

Wide current account deficit and fairly negative IIP in the US, but positive balance on income

For many years the US has experienced a large and growing current account deficit. Provisional data indicate that the deficit in 2006 will exceed 6.5% of GDP (see Chart 2). Modest as this may seem compared with Iceland, the impact of a deficit of such size by the world's strongest economy is a cause of some concern. Opinions differ as to the sustainability of the US current account deficit. Some claim that it can go on growing without causing serious problems for the US economy, even though its persistent presence has led to heavy accumulation of foreign debt. They point out that, in spite of the deficit, the US balance on income has been positive on average in recent years.[2] Economists agree that part of the explanation lies in different methodologies for estimating different types of investment, in particular direct and portfolio investment. While some subscribe to the view – which is common in Iceland – that the discrepancy derives from underestimated asset value, others regard income expenditures as underestimated. Although conditions in Iceland differ in many ways from the problems faced in the US, there is doubtless a lesson to learn from them.

Chart 2
US net IIP and current account balance
Annual data 1980-2005



Sources: IMF, Lane & Ferretti (2006).

One focus of the debate about the US current account deficit has been returns on FDI. Official statistics indicate that US outward FDI investment yields more than double the return on inward FDI in the US (Gros 2006), while no significant difference is seen in other asset categories. As mentioned earlier, there are two types of return on direct investment: dividends paid to shareholders and reinvested earnings. On closer scrutiny it emerges that the return in the form of dividends from outward and inward FDI is similar. However, the return in the form of reinvested earnings is much higher from outward FDI. From 1984 to 2004, income receipts from reinvested earnings amounted to more than 1,100 billion US dollars on the US income account, but income expenditures a mere 20 billion dollars.

Gros (2006) argues that the discrepancy is probably too large for official statistics on reinvested earnings to be meaningful. He states

2. The total return on US outward investment was 5.3% in the first half of 2006, but on inward investment only 4.3% (Higgins, Klitgaard and Tille 2006).

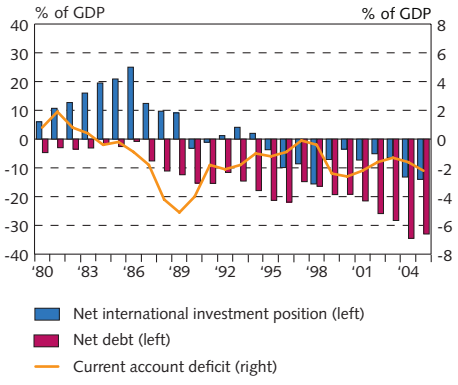
a variety of reasons. Most importantly, data on reinvested earnings from outward FDI are collected from surveys of American investors. For tax reasons they have no real incentive to understate their recorded profits, because these are not taxed in the US until they are realised. Foreign direct investors in the US, on the other hand, have an incentive to declare the lowest possible profit in order to minimise their tax payments (Gros 2006; Heath 2007). This hypothesis is supported by the fact that returns on inward portfolio investment in the US are considerably higher than on inward FDI. In the long run, foreign investors in the US must surely be unlikely to accept much smaller returns on their FDI in the US than in other countries. In a controversial article, however, Hausmann and Sturzenegger (2006a; 2006b) propose an explanation for the discrepancy between the development of net IIP and the balance on income in terms of "dark matter" that gives inward FDI in the US an advantage over that in other countries. Aspects of this dark matter include political stability and access to know-how. Consequently, the US should have little trouble in maintaining its present current account deficit, and even a growing one. The deficit is assumed to be self-funding through the positive balance on income, despite mounting debt.

Higgins *et al.* (2006), on the other hand, consider that if foreign debt continues to accumulate at an unchanged pace, the increasingly negative position will soon outweigh the positive returns on net FDI, resulting in a growing deficit on income.

Persistent UK current account deficit, yet net IIP is improving

The UK has experienced a prolonged current account deficit. Over the past 20 years it has averaged the equivalent of 2% of GDP (see Chart 3) but in recent years the trade deficit has been worsening. Both foreign assets and liabilities have surged over the same period, by as much as 60% of GDP annually. Despite the persistent current account deficit and soaring foreign assets and liabilities, net IIP has only deteriorated marginally as a proportion of them (Whitaker 2006). If IIP is restated at market value, assets far exceed liabilities (Nickell 2006). The main reason for the growth in net foreign assets despite decades of deficit is the divergent composition and returns on the asset and liability sides. For many years, average returns on outward investment have been roughly 2% higher than on foreign debts. This bias in returns is largely explained by a considerable slant towards equities on the asset side, while interest-bearing instruments such as bonds and ordinary deposits predominate on the liabilities side. One of the main factors is that the UK's outward FDI has, on average, well surpassed inward FDI, with net assets in this category in the range 200-300 billion pounds sterling over the past six years. As in most other countries, returns on FDI have been higher than for other investments. By itself, the larger share of direct investments on the asset rather than the liability side explains part of the contradiction pointed out above. Interestingly, however, the situation in the UK and US appears to be similar in that returns on UK outward FDI seem to be greater than on inward FDI. In 2005, for example, outward FDI generated a return of 11% while inward FDI yielded 7%. If the FDI balance sheet is adjusted

Chart 3
UK net IIP and current account balance
Annual data 1980-2005



Sources: Lane & Ferretti (2006), OECD.

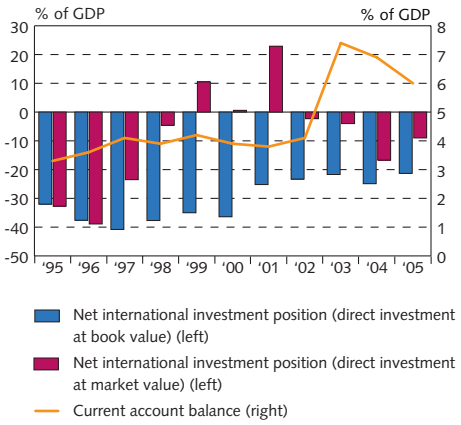
for market value, the return on the asset side falls to just over 5% and on the liabilities side to just over 3%, as Nickel (2006) has calculated. Nonetheless, a sizeable outward bias remains. Thus the sustainability of the current account deficit relies on maintaining a high proportion of equities in FDI and the continued presence of this largely unexplained difference between returns.

Sweden shows a current account surplus but little improvement in net IIP

Unlike the UK and US, Sweden has produced a sizeable current account surplus for some years (see Chart 4) which is largely explained in recent years by surpluses on the trade account. However, it has not been reflected in growth of foreign assets net of foreign liabilities. The accumulated current account surplus over the period 1989-2005 amounted to 995 billion Swedish kronor (SEK), while net IIP improved by only just over 50 billion SEK. Studies by Blomberg and Falk (2006) and Lane (2006) largely explain this in terms of differing returns on assets and liabilities, and exchange rate movements. Since both the foreign asset and liability stock have swollen in recent years, the current account balance has progressively less effect on the development of the net position. The impact of changes in the SEK exchange rate and equity price developments relative to international markets outweigh the contribution of the current account balance to IIP.[3] At the end of 2005, Sweden's net outward investment stock amounted to 2,600 billion SEK. A depreciation of the SEK by 8% would have boosted the IIP by 208 billion SEK, compared with the current account surplus in 2005 of 188 billion SEK. The opposite effect would have applied had the Swedish krona appreciated. However, since the bulk of inward investment in Sweden is denominated in Swedish currency, movements in the SEK against foreign currency have no effect on its value.

Inward equity portfolio investment is considerably larger than outward portfolio investment. However, equity prices have risen by more in Sweden than in international markets. This item has therefore made a negative contribution to the net position for most of the period. The combined effect has been that Sweden's net IIP has not improved in pace with the large surplus shown on its current account balance in recent years.

Chart 4
Sweden's net IIP and current account balance
Annual data 1995-2005



Sources: OECD, Sveriges Riksbank.

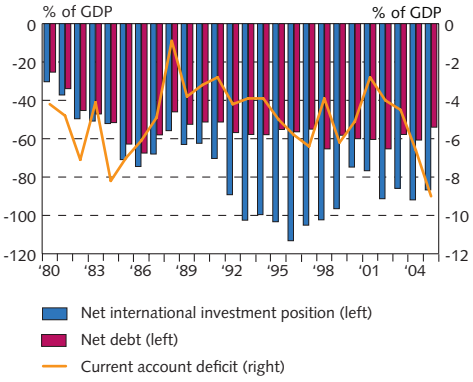
Developments in New Zealand similar to Iceland

Economic developments in New Zealand in recent years have resembled those in Iceland in various ways (see e.g. Appendix 2 in *Monetary Bulletin* 2007/1). Its current account deficit has grown annually and was equivalent to 9% of GDP in 2005 (see Chart 5). Contrary to the pattern in the countries discussed above, the development of net IIP has tracked the current account deficit (see e.g. Medina, Munro and Soto (2006)). Net IIP was negative by the equivalent of 89% of GDP

3. It should be noted that the Swedish Central Bank, Sveriges Riksbank, records FDI at market value, and not book value like the Central Bank of Iceland. Converting FDI to book value would cause the net external position to deteriorate by more than 300 billion SEK from the beginning of 1989 to the end of 2005. Based on these calculations, as prescribed by the IMF, the current account balance has even less impact on Sweden's net IIP than the findings of Blomberg and Falk suggest.

in 2005 and balance on income negative by 7% of GDP (Edwards 2006). The main driver of the current account deficit – unlike Iceland until very recently – has been a deficit on income, not on the trade account. Heavy inflows of foreign capital are largely explained by close contact with Australia, the source of most of New Zealand's inward FDI. Large investments have been made in financial companies and other sectors which have recorded high profits in recent years. The result has been a strong outflow through reinvested earnings, which in turn has caused a sharp downturn in the balance on income. Similarly to Sweden, returns on outward investment have been considerably lower than on inward investment, averaging around 3% and 6% respectively in recent years (Edwards 2006).

Chart 5
New Zealand's net IIP
and current account balance
Annual data 1980-2005



Sources: IMF, Lane & Ferretti (2006), OECD.

Common characteristics

The above examples may be instructive for Iceland. As foreign liabilities and assets expand, minor changes in return on individual categories can have a large impact on the balance on income. Since the composition of assets and liabilities is rarely identical, their different rates of return may result in a positive balance on income even though net IIP is negative (and vice versa), provided that it is not seriously negative. Different weightings of FDI and equity portfolio investment can cause price developments to have a considerable impact on a country's net IIP, given the improbability that asset prices, exchange rates and interest rates will always develop in synchronisation. The impact will be greater, the larger the asset and liability stock. If assets and liabilities swell several times over, it can have a major effect on net IIP – or virtually none, as in the case of the UK.

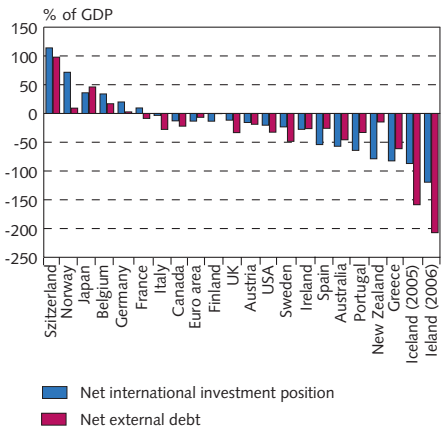
International comparison

By international comparison, Iceland is in a league of its own in terms of both net foreign debt and net venture capital investment, as a proportion of GDP (see charts in Appendix).

The net IIP of many leading industrial countries is not dissimilar to the asset composition of hedge funds (Lane and Milesi-Ferretti 2006), in that the net debt position is negative but net equity investment[4] is positive. In other words, most industrial countries are net foreign borrowers and use these funds for outward direct and portfolio investment. Among the G7 countries, only Japan has a positive net foreign debt position (with net equity investment equivalent to -2.2% of GDP in 2004 and net foreign debt of 22.5% of GDP in 2004,[5] see charts in the Appendix).

In Iceland's case, outward equity investment is much greater than inward equity investment. Thus Iceland's net equity investment position is positive. As a proportion of GDP, Iceland has a very high level of outward equity investment, exceeded by only one country, the United Arab Emirates (see Chart b in the Appendix).

Chart 6
Net IIP and external debt of selected
advanced economies at end- 2005[1]

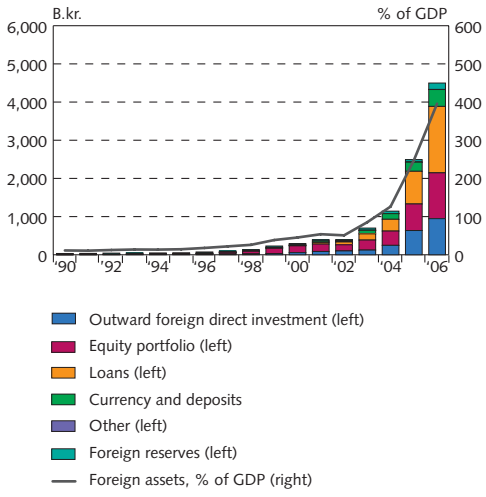


1. And with data for Iceland for 2006.
Sources: International Monetary Fund, central bank websites and statistics offices, Central Bank of Iceland.

4. Equity investment is defined here as the total of direct investment and equity portfolio investment.

5. Based on the database used by Lane and Milesi-Ferretti (2006), which is the largest containing comparable data on net IIP of most countries in the world. However, its data coverage extends only until 2004. Data compiled by the authors for 2005 indicate that Germany's net IIP was positive in 2005 (see Chart 6).

Chart 7
Iceland's foreign assets
Annual data 1990-2006



Sources: Statistics Iceland, Central Bank of Iceland.

Recent development of assets and debts

For a clearer picture of Iceland's IIP, the composition of its assets and liabilities needs to be examined more closely.

Foreign assets

In 1995, Iceland's outward investment stock was equivalent to approximately 14.5% of GDP. Only eleven years later, in 2006, it had risen more than twenty-six-fold to 396% (see Chart 7). The composition of foreign assets has also changed substantially over this period. Reserve assets and trade credit once accounted for a significant portion of foreign assets but are now relatively unimportant. Instead, foreign lending has surged to 39% of foreign assets. The share of foreign equity has also almost doubled to roughly a fifth of the total foreign investment stock. On the other hand, inward equity investment accounts for only 6% of total foreign liabilities. Iceland's outward FDI was 946 b.kr. at the end of 2006, accounting for about 21% of the total.

Table 1 Composition of foreign assets 1995 and 2006

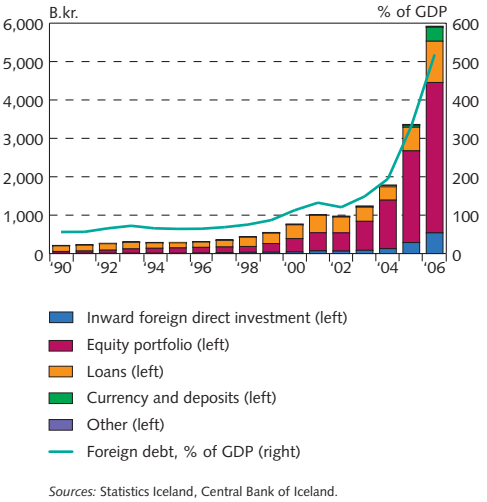
	Outward FDI	*Equity portfolio*	*Debt securities*	*Loans*	*Currency and deposits*	*Trade credit*	*Foreign reserves*
1995	19%	11%	10%	0%	13%	13%	34%
2006	21%	20%	6%	39%	10%	0%	4%

Lending by domestic credit institutions to foreign borrowers is one of the largest single contributors to this increase. Foreign lending amounted to 44 b.kr. in 2001 but had risen meteorically to 1,740 b.kr. in 2006. Pension funds' foreign portfolios have also soared to just over 442 b.kr. at the end of 2006, accounting for 10% of Icelandic residents' total foreign assets and 37% of foreign portfolio holdings.

Extensive direct, portfolio and real estate investment by other Icelandic residents explains the rest of the growth in assets. Outward FDI and equity portfolio exceeded inward by 974 b.kr. at the end of 2006.

Outward investment has been predominately in banking and financial services, but also extends to the retail and services sectors, food production, pharmaceuticals and transport. Total outward FDI stock amounted to 635 b.kr. at the end of 2005, of which the three commercial banks and one investment bank accounted for 144 b.kr. Inward FDI totalled 286 b.kr. at the same time, 61 b.kr. of which was holdings in one commercial bank and one investment bank.

Chart 8
Iceland's foreign liabilities
Annual data 1990-2006



Sources: Statistics Iceland, Central Bank of Iceland.

Foreign debt

Iceland's total foreign debt was equivalent to 518% of GDP at the end of 2006, up from 332% of GDP at the end of 2005 (Chart 8). Part of this substantial increase is explained by an 18.8% depreciation of the króna in 2006. Credit institutions accounted for 82% of Iceland's total foreign debt. Public sector debt amounted to 263 b.kr. at the end of 2006 while debt of other sectors (other credit institutions and businesses) was 516 b.kr.

The increase in debt largely reflects the growth of the foreign investment stock. Icelandic banks have played a major role in brokering foreign capital for domestic investors and have invested extensively abroad on their own account. Also, a sizeable share of the banks' extra foreign debt has gone to fund domestic lending, some of which has then been used to invest abroad. Central and local government, on the other hand, were not responsible for the increase in foreign debt, because the public sector retired a substantial amount of its foreign debt over the period.[6]

Table 2 Composition of foreign liabilities in 1995 and 2006

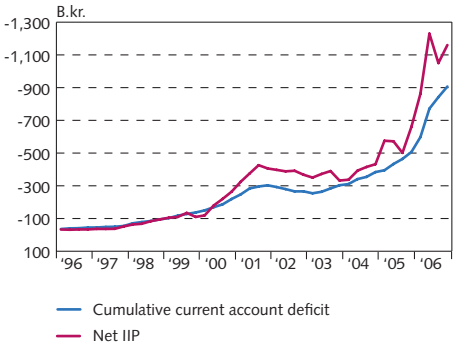
	Inward FDI	*Equity portfolio*	*Debt securities*	*Loans*	*Currency and deposits*	*Trade credit*	*Other*
1995	3%	0%	48%	46%	0%	2%	1%
2006	9%	6%	63%	16%	6%	0%	0%

Current account deficit explains only part of worsening net IIP

A current account surplus indicates that part of national saving has been deployed on foreign investment or to prepay foreign debt. With a deficit, on the other hand, residents are overspending and accumulating foreign debt. Ideally, a cumulative current account surplus ought to be exactly matched by the development of net IIP. These two aggregates were in fairly close alignment until 2000 (see Chart 9). Until 1995, foreign borrowing and foreign investment were controlled by government agencies and both outward FDI and portfolio investment were rare. The European Economic Area (EEA) Agreement revolutionised access to foreign investment opportunities. In connection with privatisation of the banks, which was launched in 1998 and completed in 2003, there was a surge in both foreign assets and foreign debt.

The development of the debt position from 2000 onwards is considerably less favourable than the cumulative current account balance would appear to warrant. Chart 9 shows the cumulative current account deficit and the development of net IIP since 1996, when Iceland's foreign trade was broadly in balance. The main reason for the discrepancy lies in changes in the value of assets and liabilities. Over the period 2000-2002, for example, the slump in international equity prices may be expected to have wiped more than 72 b.kr. off the value of Iceland's foreign portfolios. Offsetting this in part, foreign equities increased in value by more than 21 b.kr. in domestic currency terms, due to depreciation of the króna.

Chart 9
Cumulative current account deficit and development of net IIP



Sources: Central Bank of Iceland data and calculations.

6. In 2000, government foreign debt amounted to 167 b.kr. In 2005 it had risen to 172 b.kr., while total foreign debt of the economy had swollen by 2,592 b.kr. Government foreign debt increased by 91 b.kr. in 2006, largely due to a Treasury bond issue at the end of the year to boost the Central Bank's foreign reserves. Over the same period, Iceland's total foreign debt grew by 2,569 b.kr. Foreign debt of credit institutions has increased in pace with their expanding balance sheets. The banks' foreign debt amounted to 4,220 b.kr. at the end of 2006, compared with 453 b.kr. at the end of 2002.

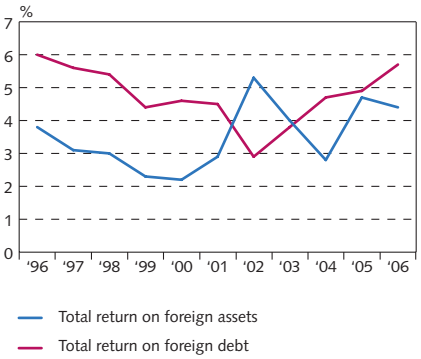
What contribution has outward investment made to the Icelandic economy?

The preceding discussion addresses Icelandic foreign investment and debt accumulation. It points out that soaring assets and debt in recent years have, on their own, increased the importance of the balance on income in the current account balance. In light of this development, it is interesting to examine the return on outward investment and the corresponding development of debt (Chart 10).

Has income from foreign investment increased in pace with the growth of the stock?

It is noteworthy that 41% of Iceland's foreign assets can be classified as equity investment, i.e. direct investment and portfolio in equities. Only 14.6% of debt falls into this category, however. As pointed out above, only one country has a higher proportion of its GDP tied up in outward equity investment. It might seem natural to infer that the return on outward investment is therefore higher than on foreign debt.

Chart 10
Return on foreign assets and debt
Return on weighted average



Sources: Central Bank of Iceland data and calculations.

Table 3 Average outward and inward rate of return 1996-2006

	Outward return (%)	*Inward return (%)*	*Difference (%)*
Total investment	3.5	4.8	-1.3
Direct investment	7.5	12.7	-5.2
Own funds	9.1	15.7	-6.6
Intracompany lending	3.0	4.5	-1.5
Securities[1]	1.4	4.6	-3.2
Equities	0.9	2.5	-1.6
Debt instruments	4.4	4.7	-0.3
Other investment	3.7	3.9	-0.2

1. Return on outward portfolio investment was obtained from a survey of Iceland's largest pension funds.

As Table 3 shows, returns on both inward and outward FDI are noticeably greater than for other categories. One reason is that FDI is recorded at book value and does not follow equity market price developments. Given the growth of both the outward and inward FDI stock, it is likely to be underestimated relative to market value. Another explanation for high returns on FDI is the generally higher degree of risk. It is natural for average return to be higher as a premium for investors. However, contrary to balance on income developments in the US and UK, the average return has been much higher on inward FDI in Iceland than on outward FDI.

Over the period 1996-2006, the average return on outward FDI was 7.5%. Inward FDI, on the other hand, produced an average return of 12.7%, an apparent difference of 5.2 percentage points (Table 3). Thus the average return on outward FDI would seem to be markedly poorer than on inward FDI. Bearing in mind that outward FDI accounts for a larger proportion of Iceland's foreign assets than inward FDI in foreign liabilities, the difference in return is clearly an important factor in the current account balance. The misalignment in returns derives from the much lower operating profit reported by foreign companies owned by residents compared with Icelandic companies owned by non-residents.

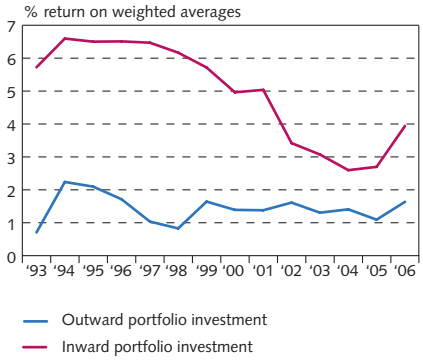
While Icelandic-owned foreign companies showed a lower profit than foreign-owned companies in Iceland, this is not to say that it was small, especially given that that outward FDI did not begin to snowball until 2000. Much outward FDI is therefore relatively new, and it may take the acquired companies several years to perform on target. Operating losses incurred by Icelandic-owned foreign companies over the period 1996-2006 are one of the main reasons that returns on outward FDI are weaker than on inward FDI. By the same token, robust profits by foreign-owned Icelandic companies in 2004-2006 strongly affect the average return.

The average return on outward FDI was 7.6% in 2004, and in 2005 it had risen to 13.5%, which is a fairly high ratio relative to other countries discussed in this paper. Return slipped back to 9.9% in 2006 (see Table 4). Average return on inward FDI was far higher over this period, measuring 32.4% in 2004, 31% in 2005 and 23.2% in 2006. In the US, by comparison, the return on outward FDI was 8% in the first half of 2006 and on inward FDI 5.1% (Higgins, Klitgaard and Tille 2006).

Table 4 Average outward and inward rate of return 2006

	Outward return (%)	*Inward return (%)*	*Difference (%)*
Total investment	4.5	5.7	-1.2
Direct investment	9.9	23.2	-13.3
Own funds	11.3	29.0	-17.7
Intracompany lending	2.6	3.3	-0.7
Securities	1.6	4.0	-2.4
Equities	1.2	1.2	0.0
Debt instruments	3.5	4.3	-0.8
Other investment	3.7	4.1	-0.4

Chart 11
Return on outward portfolio investment and inward portfolio investment
Return on weighted average



Sources: Central Bank of Iceland data and calculations.

The average return on portfolio investment and direct investment makes an instructive comparison. As Table 3 shows, the average return on outward portfolio investment over the period 1996-2006 was only 1.4%, compared with an average of 4.6% on inward portfolio investment (see Chart 11). Focusing on 2006 alone, the margin has narrowed but is still unfavourable to Icelandic investors by 2.4 percentage points (see Table 4). The difference is explained entirely by higher interest rates on Icelandic debt instruments than foreign ones, because the rate of return on inward and outward equity investment was the same in 2006.

An important consideration when comparing the average respective returns on direct and portfolio investments is the different methodologies used to measure them, which generally produce a much higher figure for the former. Low dividend payments and the absence of adjustment for market value are the most important factors.

Is income from FDI underestimated or overestimated in the balance of payments?

In recent years a number of partly or wholly foreign-owned companies in Iceland have reported record profits. Iceland has witnessed one of the highest levels of outward FDI growth in the world and foreign portfolio holdings have expanded enormously. These and other trends have occurred at the same time as Iceland has shown a persistent current account deficit. Unsurprisingly, this development has provoked speculation among local and international analysts about whether the deficit gives a true picture of the external position. Both the expenditure and income side of the balance of income have been called into question and are summarised in Table 5.

Table 5 Issues concerning balance on income estimates

• Low dividend payments on portfolio investment and no allowance made for increases in market value.	• Reinvested earnings from direct investment.
• Book value of shares in foreign associates and subsidiaries.	• Foreign holding companies owned by residents.
• Posting of goodwill when foreign companies are acquired.	• Residents' (private individuals') purchases of real estate abroad.

Reinvested income from direct investment

Low dividends on portfolio investment and higher profits from inward than outward FDI in recent years have brought reinvested earnings under increasing scrutiny. Accordingly, it is worth examining the origin of this concept and the economic significance of reinvested earnings.

It was not until 1997 that reinvested earnings were included as a separate FDI item in Central Bank of Iceland statistics.[7] This was described in the December 1997 edition of the Central Bank's monthly statistics, *Hagtölur mánaðarins*:

"Note that the current account balance for previous years has been revised to include reinvested earnings from direct business investment in the balance on income. Only dividend payments have hitherto been classified as factor income, but all profit is now included as a dividend on FDI. Thus dividends and reinvested earnings are now entered in the balance of payments when they occur rather than on the date of payment. Resident investors' shares in the profits of foreign companies represent income, while non-resident investors' shares in the profits of domestic companies are posted as expenditure. Reinvested earnings less dividends are offset with a counter-entry in the capital and financial account under direct investment. Large losses by foreign-owned companies in Iceland in 1990-1993 reduce the current account deficit by 1-2 b.kr. annually. In recent years more profit has been shown on inward FDI than outward FDI, causing the current account balance to deteriorate."

In very recent years, the proportion of reinvested earnings has grown exponentially in data for inward FDI in Iceland. The proportion

7. The concept proved problematic for many countries and for a long time reinvested earnings could not be measured, since they were not recorded in payment systems (ITRS).

of reinvested earnings from outward FDI has increased by less over the same period. This development is shown in Table 6. The explanation is that the combined profit of partly or wholly foreign-owned companies in Iceland has greatly exceeded that of foreign companies partly or wholly owned by Icelandic residents.

Losses by foreign-owned companies in Iceland in 1999-2002 reduced the current account deficit for those years. By contrast, the combined profit of foreign-owned companies in Iceland in 2004-2006 was far greater than that of Icelandic-owned foreign companies, which caused the current account balance to deteriorate substantially, especially in 2005.

Table 6 Reinvested earnings and their impact on the current account

	Reinvested earnings			*Current account balance*
	Outward FDI	*Inward FDI*	*Net*	*excl. reinvested earnings*
1990	365	-762	1,127	-8,834
1991	114	-2,016	2,130	-18,119
1992	141	-1,833	1,973	-11,515
1993	194	-1,366	1,560	1,349
1994	-194	778	-972	9,492
1995	-187	160	-347	3,737
1996	360	931	-571	-8,129
1997	41	1,441	-1,400	-8,059
1998	138	1,127	-988	-38,812
1999	1,212	-3,794	5,006	-47,927
2000	419	-1,552	1,971	-71,410
2001	4,449	-2,394	6,843	-40,208
2002	12,547	-3,267	15,814	-3,279
2003	13,914	5,836	8,078	-48,193
2004	9,527	31,487	-21,960	-69,023
2005	54,302	61,794	-7,492	-157,296
2006	75,283	86,568	-11,285	-300,321

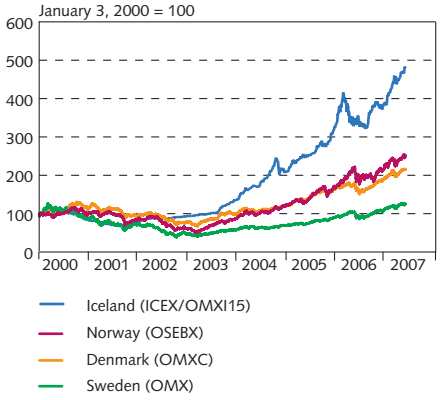
In m.kr.

Income receipts comprise dividends and reinvested earnings from direct investment, and accrued interest on other investments. Reinvested earnings are similar in character to accrued interest in that they are a measurement of accrued return which will be paid out later. Earnings are added to a company's capital until they are paid out as a dividend, or in the final event when the company is sold. Reinvested earnings are measured quarterly. The growing scale of income receipts and expenditures has made the balance of payments more volatile.[8]

In direct investments, reinvested earnings measure accrued income that strengthens the company's capital and thereby its market

8. Sveriges Riksbank takes the view that quarterly measurements of total profit should be calculated not from profit and loss account figures but as total profit less price adjustments and gains on sale of assets. The advantage of this method is that it reduces volatility. On the other hand, it probably still requires quarterly data from company accounts in order to be able to present an adjusted profit and loss account excluding volatile items, if necessary.

Chart 12
Equity indices in the Nordic countries
Daily data January 3, 2000 - May 18, 2007



Source: Reuters EcoWin.

value. As a rule a correlation may be expected between capital and market value, although the latter also reflects expected profits. A profit that is not paid out as a dividend is therefore entered both under receipts on the balance on income and as an investment in the capital and financial account. If a dividend is paid, the market value should decrease, all things being equal.

Portfolio investment[9] is handled differently, because dividend payments are only entered as income without taking into account the reinvestment that ought to be reflected in higher market value of the equities. However, it could prove to be a time-consuming and complex process to estimate reinvestment on the basis of the respective funds' balance sheets, especially in the case of large portfolios such as units in foreign mutual funds. A conceivable but potentially volatile approach would be to present the estimated increase in equity prices as income, but this has not been done. Hitherto the methodology has involved regular reassessments of the asset position relative to market value. These considerations highlight how FDI and portfolio investment are treated using different methodologies. These different methodologies in the IMF *Balance of Payments Manual* (IMF 1993) can have an enormous impact, especially for a country that has large foreign portfolio holdings.

Net reinvested earnings in Iceland's balance on income were negative in 2004-2006 after being positive for the preceding five years (Table 6). The overall balance on income was also negative in 2004-2006 (see Chart 13), mainly as a result of the negative net IIP.

Although Iceland has substantial income receipts on outward FDI, these have not sufficed to offset expenditures to non-residents on their inward FDI in companies that are listed on OMX Iceland[10] or unlisted. It should be noted that a large dividend paid by a single resident company that is wholly owned by one non-resident had a major effect on the reinvested earnings figures for 2003.

Hefty profits earned by many resident companies affected the reinvested earnings data for 2004-2006. Not all companies in Iceland in which non-residents have invested are listed on the stock exchange, but the development of the Main List (ICEX 15, now OMXI15, see Chart 12) indicates that many Icelandic companies have generated strong profits in recent years with correspondingly high returns for inward investors. Welcome as high profits may generally be, they do exert a negative effect on the balance on income.

Foreign holding companies owned by residents acquire holdings in resident companies

Ever since 1998, but especially since 2005, there has been a marked trend for foreign (holding) companies[11] that are at least partly owned by residents to acquire valuable shareholdings in companies listed on

9. An investment of less than 10% in equities and mutual fund units.
10. Iceland Stock Exchange was renamed OMX on April 3, 2007 when it merged into OMX Nordic Exchange.
11. In Iceland, "holding companies" is used as an umbrella term for a range of companies that may be very diverse in character. Some could qualify as Special Purpose Entities (SPEs) and others as offshore enterprises.
See *Glossary of FDI Terms*, http://www.oecd.org/dataoecd/56/1/2487495.pdf.

the stock exchange in Iceland. Their share in inward FDI in Iceland has grown substantially in recent years and one school of thought proposes ignoring announcements concerning such companies if they appear to be connected with residents in some way. It should be duly noted that Iceland's FDI statistics are compiled on the basis of the IMF and OECD methodologies, which recommend classifying residents and non-residents on the basis of their domicile. One data source for FDI statistics is announcements from companies listed on OMX Iceland.

Liberalised capital movements under the EEA Agreement, coupled with changes in the legal and institutional framework for the financial markets, and hence for the economy as a whole, have had an enormous impact on the scope and character of FDI. When capital movements were fully deregulated at the beginning of 1995, holding companies gradually emerged which had been established outside Iceland but partially or mostly owned by Icelandic residents. The 24.1% holding taken by Scandinavian Holding S.A. in FBA investment bank when it was privatised in 1998 can be described as setting the precedent.

Over the past two years, growing numbers of residents who own shares of 10% or more in companies listed on OMX Iceland, or in unlisted companies, have transferred their domestic holdings to foreign holding companies. For example, Iceland's outward and inward FDI statistics for 2005 were significantly affected by one resident's decision to transfer holdings in several Icelandic listed companies to a non-resident holding company. The effect on the balance on income was that the "foreign" investor's share in large profits posted by the resident company (in the form of both dividends and reinvested earnings) was recorded as income and investment by the country in which the holding company was domiciled. However, because the foreign holding company was owned by a parent company in Iceland, its profits were duly recorded in Iceland in the parent company's accounts and as income receipts in the balance on income, thus "turning full circle." Such transfers of holdings also need to be reflected in capital flows. Information is therefore acquired on the book value of holdings transferred to foreign holding companies, and a corresponding amount posted as inward FDI in the resident company.

A number of announcements were made in 2006 about the transfer of holdings in several valuable resident companies to foreign holding companies, which other things being equal will have a considerable effect on the balance on income over the years to come. In most cases, the underlying explanation for transferring the holdings is that Iceland levies capital income tax on the sale of equities, unlike many other European countries, for example the Netherlands.

There has been a growing trend for Icelandic companies and private investors to move their equity holdings abroad for the explicit purpose of avoiding capital income tax on their sale in Iceland. Although certain deferrals are allowed in Iceland, capital gains on sale of equities are broadly exempt from taxation in other European countries if certain conditions are met. Examples are Norway, Sweden, Denmark and the Netherlands. Although many other countries have no capital income tax on equity sales, many Icelandic residents have opted for

the Netherlands recently because its regulatory framework is easier and more convenient and other tax concessions are offered as well. Thus Iceland's low corporate income tax rate alone does not appear to sway resident investors when they decide where to domicile their companies.[12]

The viewpoint that all such transfers of holdings should be ignored raises a number of issues. First, accurate information is not always available about the owners of foreign holding companies. Although the spokesmen for these companies are generally Icelandic residents, and sometimes domiciled in Iceland as well, details of their ownership can be difficult to obtain. This is because the companies are domiciled outside Iceland and enquiries have to be directed to the relevant country, or to their spokesmen who may or may not be domiciled in Iceland. One main source of details about their ownership is prospectuses for IPOs by listed companies, but there may be a long lag between the time an investment is made in a listed company by a foreign holding company and the publication of an IPO prospectus.

Another point to remember is that most foreign holding companies owned by residents prepare their financial statements according to Icelandic accounting methods, so that their profits are returned in full to the Icelandic parent. The main change is that custodianship of investments in Icelandic resident companies is with foreign holding companies. Custodianship of shareholdings outside Iceland has no effect on the accounts of the Icelandic parent company.[13]

As illustrated above, transfer of investments in resident companies to foreign holding companies can have a major impact on FDI statistics. In this context, it may be noted that several reports on the Icelandic economy in 2006 drew attention to cross-ownership and concentration among Icelandic companies.[14] In 2004, 8 companies owned 78% of Iceland's outward FDI stock, including one which owned 35%.

Low dividend payments and no account taken of increases in market value of portfolio investment

Many limited companies and mutual funds offer returns to investors in the form of possible gains in the market value of their shares instead of paying out dividends. Companies that pay dividends base them on the nominal share price, which gives a low dividend yield ratio. This is clearly illustrated by the pension funds' much higher returns on their foreign portfolio investments than the figures in Table 3 would suggest. In the pension funds' calculations, the bulk of the return is in higher market value, not dividends received.

12. This issue was also discussed (in Icelandic) in *Morgunblaðið* newspaper business supplement on January 11 (p. 12) and January 25, 2007 (p.8).

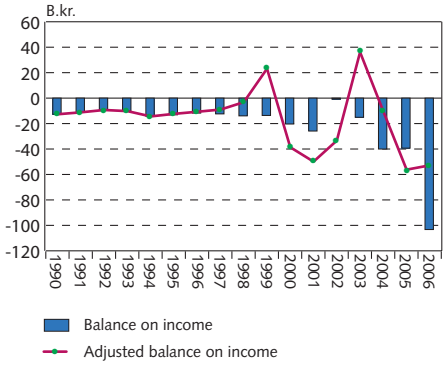
13. Bill No. 685/2007 on Income Tax (capital gains on sales of equities), which was presented to the last session of parliament, would have abolished taxation of companies' equity portfolios on fulfilment of certain conditions. It would have greatly reduced or eliminated the advantages of transferring portfolios to foreign holding companies. Parliament did not reach an agreement on its passage before the recession in March 2007.

14. See e.g. the Merill Lynch report *Icelandic banks: credit curves to steepe*n, September 20, 2006.

As mentioned earlier, balance of payments figures do not include any possible increase in market value of portfolio investments. This is consistent with the methodology in the IMF's *Balance of Payments Manual* (IMF 1993), which states that holding (capital) gains and losses are not classified as income on investments but as part of the value of the investments.[15] Various complications would arise if changes in the value of foreign securities were included in balance on income calculations. Some commentators consider it undesirable to measure value changes because negative returns would need to be measured in a market downswing.

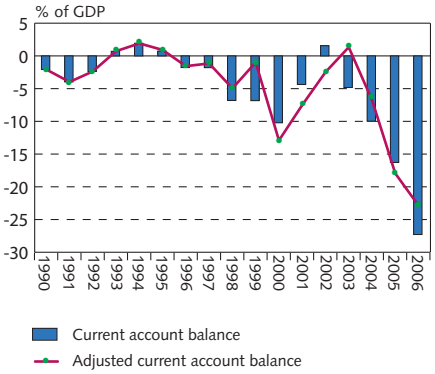
In fact it is fairly easy to estimate the impact of including these factors in balance on income calculations. Chart 13 shows the development of the balance on income over the period 1990-2006 and an estimate of the possible development if changes in equity prices had been calculated as returns. Price changes are calculated as the residual product of changes in the stock (which is entered at market value), annual flows, the exchange rate of the króna and other adjustments. As the Chart shows, the two aggregates do not diverge noticeably over the first part of the period, but after 1997 the adjusted balance of income shows much more volatility than the conventional measurement. Since net balance on income is either much more positive or more negative during individual periods, it cannot be taken for granted that one methodology would necessarily give a more favourable picture of the position than the other. Chart 14 shows the impact on the current account balance of including changes in the market value of equities in the balance on income. On the basis of these calculations, the current account deficit was quite sharply overestimated in 2006. Including market value increases in portfolio returns would show a current account deficit equivalent to 22.3% of GDP instead of 27.7%. However, the current account deficit would then have been strongly underestimated in 2005 and over the period 2000-2003.

Chart 13
Balance on income including and excluding equity price movements[1]



1. Including current transfers.
Sources: Central Bank of Iceland data and calculations.

Chart 14
Current account balance including and excluding equity price movements



Sources: Central Bank of Iceland data and calculations.

Resident companies' subsidiaries and associates are rarely listed on stock exchanges

It has been claimed that Iceland's outward FDI stock is underestimated because, in line with IMF standards, it is entered at book value and not market value. Resident companies' foreign subsidiaries and associates are rarely listed on foreign stock exchanges. This complicates any assessment of the impact that other methodologies would have on FDI statistics.

Iceland's inward FDI stock, which is currently entered at book value, would probably increase significantly if it were entered at estimated market value. The value to capital ratio of foreign-owned listed domestic companies provides an indication of whether market and book value diverge more in Iceland than elsewhere. However, a substantial proportion of inward FDI in Iceland is in unlisted companies. The three local aluminium producers (Alcan Iceland, Norðurál and Al-

15. The IMF's Balance of Payments Manual is currently under review. Definitions and methodologies for evaluating direct and portfolio investment are among the possible changes (see IMF (2004)). However, the review has not been concluded.

coa Iceland), for example, are not listed on OMX Iceland. Investment in the metals sector accounted for 38 b.kr. of total inward FDI of 252 b.kr. at the end of 2005.

Amortisation of goodwill

Direct investment flows in a given year are not necessarily reflected in the difference between stocks at the beginning and end of that year. The reason is that stocks are entered on an accounting basis but flows on a payments basis. One explanation for discrepancies between flow and stock sizes has been that residents have paid a premium for acquisitions over and above their value as given in annual financial statements, stemming from estimated goodwill which is subsequently amortised. Changes in other values such as the exchange rate of the króna also exert an impact. To cite one example, in 2004 a domestic company acquired a foreign company for 86 b.kr. However, the capital of the foreign company was only 58 b.kr., creating a sizeable discrepancy between the acquisition price, which is one element in the aggregate flow, and the book value of capital, which together with loans forms the asset stock.

Icelanders' purchases of overseas property

In the debate about conceivable underestimates of Icelandic residents' foreign assets, it has been mentioned that a large number of Icelanders are known to have invested in residential property, e.g. in Spain and Florida. Under Central Bank rules on purchases of property abroad, which entered into effect on September 1, 1990, residents were allowed to acquire real estate in other countries. Initially the maximum purchase price was restricted to 3.75 m.kr. The limit was raised on January 1, 1991 and again later that year, then abolished on January 1, 1993. A survey of foreign real estate ownership was made in 1991 and 1992. Another survey was conducted in 1994, but the data turned out to be flawed. In the balance of payments, net flows on real estate purchases are measured from currency flows based on domestic financial institutions' International Transaction Reporting System (ITRS) data, but these figures are no longer substantial relative to business FDI. The scope of real estate transactions has proved difficult to estimate, partly because they are not stated specifically on tax returns and therefore cannot be mined from Internal Revenue data. An estimate could be made by sampling tax returns or conducting a more comprehensive survey among businesses and households. A measurement of the net real estate stock would probably reveal sizeable assets abroad. However, the liability side would probably increase as well, since real estate purchases tend to be financed with mortgages, in many cases with a loan-to-value ratio of 80-90%.

Pension funds' foreign portfolio returns probably underestimated, but stock figures capture changes in market value

As mentioned above, there is a marked discrepancy between measured returns on pension funds' foreign portfolio investments and changes in their estimated portfolio value. The dividend payments on foreign portfolios that pension funds have reported have generally been very low. The measured return in the balance of payments has been around

2%, while pension funds have published figures in the range 10-20% for their foreign portfolio returns. These include increases in market value, stated in Icelandic currency. Pension funds have explained their low dividend receipts in terms of how uncommon dividend payments are in global financial markets. However, changes in market value are captured by stock figures, i.e. in IIP statistics. It has often been claimed that a better arrangement would be to state the increase or decrease in market value in the quarterly balance of payments statistics, so that changes in the market value of portfolios would also appear there and not only in the year-on-year stock figures.

Summary

Iceland has recorded a large current account deficit in recent years and the balance on income accounted for a substantially greater share of it in 2006. Various questions arise concerning collection of data on income receipts and expenditures and their relationship to the underlying asset and liability stocks. Some regard Iceland's deficit on income to be greatly overestimated. Even if the balance on income were measured differently, it is not certain that this would affect the current account deficit as drastically as is sometimes imagined. The reason is that the impacts are captured on both the asset and the liability sides. However, it seems likely that residents' foreign assets are underestimated by current methodologies. Outward FDI has been enormous in recent years and in some cases highly leveraged. Because the debts are fairly well known values but the value of the assets is more ambiguous and estimated using quite conservative methodologies, some discrepancy could occur. The same applies to estimates of inward FDI in Iceland. That amount is rather lower, so the net impact could be sizeable.

The Central Bank follows international standards in compiling its balance of payments statistics. As described above, there is a considerable disparity between the methodologies used to estimate returns on FDI and portfolio investment. The question arises whether international standards should be modified, for example to take into account changes in the market value of portfolios. Arguably, the low level of income receipts on portfolio investment is at odds with robust demand for foreign securities in recent years. However, taking full account of changes in market value could generate volatility in the balance of payments which would be completely unrelated to inward and outward payment flows. Thus no obvious solution is in sight for ensuring full consistency between the development of income receipts and expenditures and the underlying asset and liability stocks.

The proportion of outward FDI that is entered at book value is more than double the share of inward FDI in the gross debt of the economy (see Tables 1 and 2). Assuming that book value is lower than actual market value (which many indicators would suggest is the case), the deficit on net IIP is overestimated, but it is difficult to state precisely by how much, since the bulk of the investment stock is in unlisted companies. Notwithstanding the lack of methodology for estimating the "market value" of unlisted companies, various approaches may be applied to produce a working approximation. Alongside the statistics that are currently published in the IIP survey, it would be possible to

present, for example, stock figures for outward and inward FDI stated using the current cost method and market value method. These presentations could, for example, be based on the methodology currently used in the US (see e.g. Kozlow 2002).

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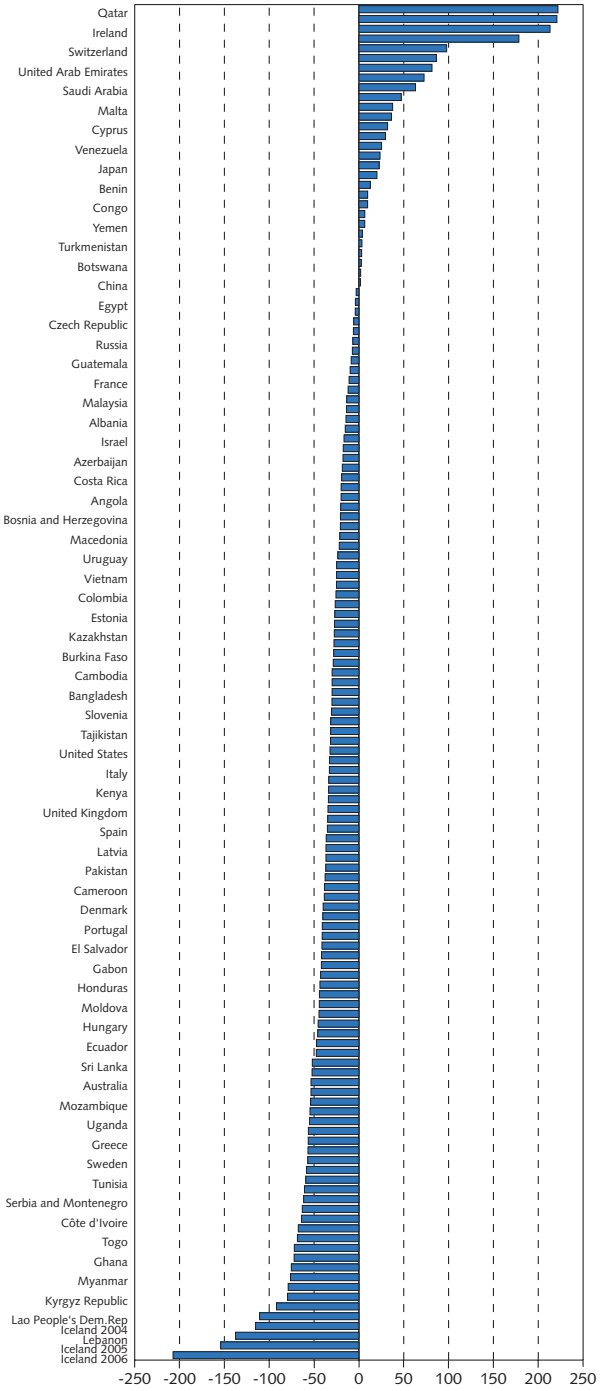
Appendix 1

Chart A

Net debt af % of GDP

Comparison of 139 countries in 2004[1]

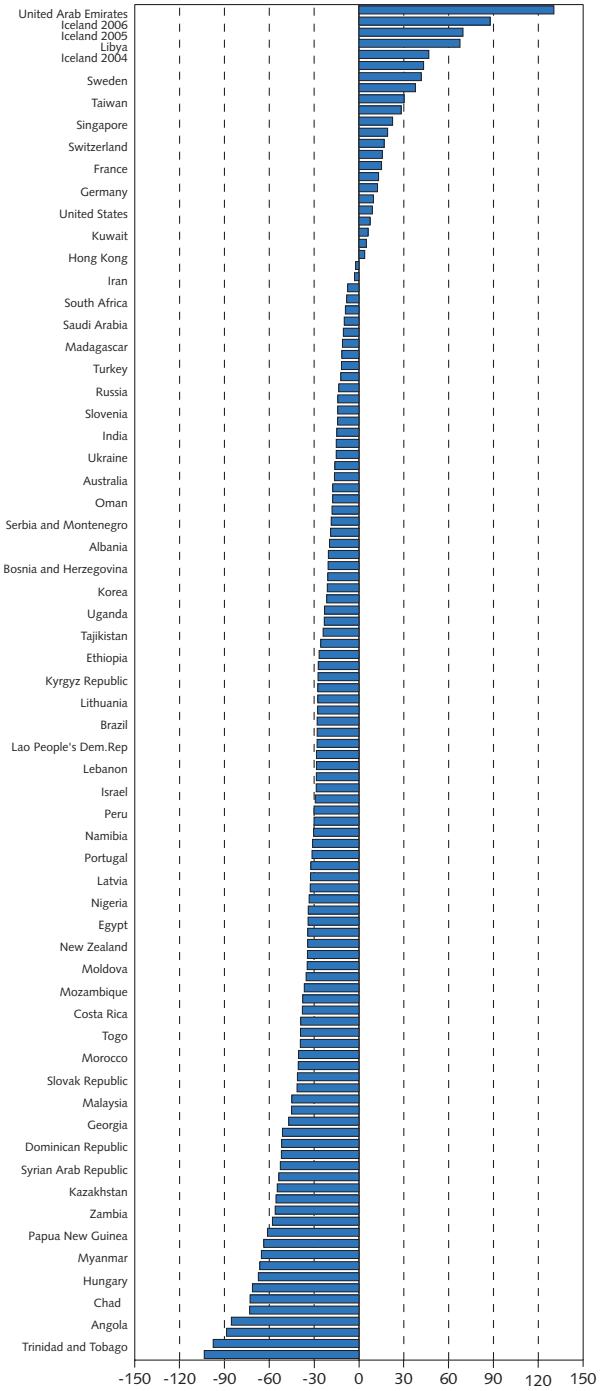


1. Data for Iceland 2004-2006. Luxembourg (2880% of GDP) and Brunei (720% of GDP) are omitted from the chart.
Sources: Lane and Ferretti (2006), Central Bank of Iceland.

Chart B

Net equity investment as % of GDP

Comparison of 122 countries in 2004[1]



1. Data for Iceland 2004-2006. Ireland (-240% of GDP) is omitted from the chart.
Sources: Lane and Ferretti (2006), Central Bank of Iceland.

Monetary policy and instruments

The objective and implementation of monetary policy

The objective 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 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 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.

Macroeconomic and inflation forecasts perform an important function in monetary policy conduct. As of *Monetary Bulletin* 2007/1, the Bank's forecasts are based on the policy rate path that its staff estimates as appropriate for attaining the inflation target. The policy rate path is chosen with the aim of bringing inflation to 2½% within an acceptable horizon and stabilising it close to that target afterwards. Confidence limits are presented for the policy rate to underline the uncertainties surrounding the forecast, emphasising that the policy rate path is liable to change over time as new data become available.

Overview of Central Bank interest rates June 21, 2007

		Last change		*Rate one year ago (%)*
	Current rate (%)	*Date*	*Percentage points*	
Current accounts	12.75	Dec. 21, 2006	0.25	10.75
Overnight loans	15.25	Dec. 21, 2006	0.25	13.75
Certificates of deposit, 90 days	-	July 11, 2006	-	11.25
Required reserves	13.00	Dec. 21, 2006	0.25	11.05
Collateral loans – policy rate	13.30	Dec. 27, 2006	0.25	11.54
Certificates of deposit, 7 days	13.20	Dec. 27, 2006	0.25	12.10

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

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 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 apply to 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. 541 of June 18, 2007. 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.

Central Bank of Iceland interest rate decisions

Date Remaining policy interest decision dates in 2007	Interest on collateral loans (%) Nominal rate (policy rate)	 Yield	 Change
November 1, 2007			
September 6, 2007			
July 5, 2007	13.3		0
May 17, 2007		14.25	0
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
December 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

- Securities market trading is limited to Treasury-guaranteed paper.
- Foreign exchange market intervention, in keeping with the declaration on the inflation target from 2001, 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.

Economic and monetary chronicle

March 2007

On March 29, the Board of Governors of the Central Bank of Iceland announced its decision to leave the Bank's policy rate unchanged.

April 2007

On April 10, Moody's Investor Service downgraded its credit ratings for Glitnir, Kaupthing Bank and Landsbanki following a review of its new Joint Default Analysis (JDA) rating methodology. The banks' long-term local currency ratings were lowered from Aaa to Aa3. Their ratings for short-term debt and financial strength remained unchanged at P-1 and C respectively.

On April 20, the Financial Supervisory Authority (FME) granted Saga Capital a licence to operate as an investment bank.

May 2007

On May 3, the Treasury sold its 15.2% shareholding in Hitaveita Suðurnesja (Sudurnes Regional Heating) to the privately owned Geysir Green Energy for 7.6 b.kr.

On May 16, the Board of Governors of the Central Bank of Iceland announced its decision to leave the Bank's policy rate unchanged.

On May 16, Glitnir completed its public tender offer for all issued and outstanding shares and option rights in FIM Group Corporation of Finland. Afterwards, Glitnir's total holding in FIM was 98.28%. FIM was included in Glitnir's consolidated statements as of April 1, 2007.

On May 22, Straumur-Burðarás investment bank announced its acquisition of a majority shareholding in the Finnish bank eQ Corporation and an offer for the outstanding shares and option rights in it. The combined value of the acquisitions and offer is €260 million.

From May 31 to June 11, an IMF mission visited Iceland for consultations with representatives of the authorities and the private sector. The mission's concluding statement was published on the websites of the IMF and Central Bank of Iceland on June 11.

June 2007

On June 6, Rating and Investment Information (R&I), a Japan-based rating agency, assigned an A+ credit rating to Kaupthing Bank, the agency's first rating for an Icelandic bank. The rating outlook is stable.

On June 6, R&I Rating of Japan announced its first rating for the Republic of Iceland, assigning it a foreign currency issuer rating of AA+. The outlook was stable. The rating was announced in connection with a formal request by Kaupthing Bank for a rating from the agency. R&I Ratings also decided to assign a rating to the Republic of Iceland, although this had not been requested by the authorities.

On June 13, parliament elected a new Supervisory Board for the Central Bank of Iceland, pursuant to Article 26 of the Central Bank Act no. 36 from May 22, 2001. At its first meeting, the Supervisory Board elected Halldór Blöndal as Chairman and Jón Sigurðsson as Deputy Chairman.

On June 13, parliament passed amendments to the Social Security Act and Act on the Affairs of the Elderly whereby basic pension payments from the Social Insurance Administration are no longer means-tested against earnings from employment of pensioners aged 70 and older. The reform is expected to cost the Treasury 6-700 m.kr. annually.

On June 21, new rules on Central Bank of Iceland facilities for financial undertakings entered into force. The amendments were largely of a technical nature but the Bank drew attention to two specific aspects of the changes. It was decided to rename the Central Bank's lending facility for financial companies to which the policy rate applies. This facility was known *as repos* but is now termed *collateral loans*, because strictly speaking it did not involve repurchase agreements. The second change relates to the numerical presentation of the policy interest rate. Until now, the Central Bank has announced its policy rate in terms of the *annual rate of return* and not the *nominal interest rate*. It was decided that all Central Bank interest rates will in future be stated and announced as nominal rates.

Featured statistic

Development of household borrowing 2004-2007

Major changes in the mortgage loan market in recent years have caused a sea change in lending to households. The commercial banks' entrance into the mortgage loan market spurred competition, increased access to credit and caused changes in mortgage lending terms. The following is a brief overview of developments.

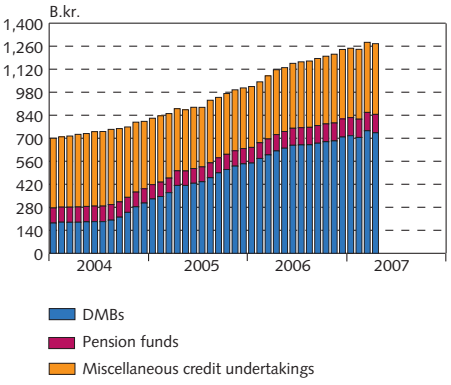
In July 2004, the Housing Financing Fund (HFF) changed the structure of the bonds that it issues to fund mortgage lending. Issuance of housing bonds with embedded call options was discontinued and replaced by HFF bonds in annuity format with fixed interest rates. As a result, HFF lending rates were soon lowered from 5.1% to 4.8% and eventually to a low of 4.15%. In autumn that year, the commercial banks, savings banks and several other credit institutions stepped up their profile in the mortgage loan market. Fiercer competition drove down interest rates and substantially increased households' access to credit. The commercial banks also reduced their housing mortgage rates to 4.15%. From 2006, HFF lending rates began to rise again and the banks followed suit. HFF rates (including a conceivable prepayment option) are currently 4.8%, 0.3 percentage points lower than before the banks entered the market.

These structural changes in the mortgage loan market had an impact on private consumption and household debt. Strict rules set by the HFF for loan ceilings and loan-to-value ratios had effectively capped house prices. This changed when the banks entered the market and the HFF eased its own lending rules. Lending is now more closely linked to the payment capacity of homebuyers, which together with the market value of the housing determines mortgage lending amounts. Properties may be mortgaged for up to 100% of their market value and loans are not required to be deployed entirely on residential purchases. Changes in the mortgage loan market are doubtless also responsible for the surge in house prices over this period.

The main providers of household credit are miscellaneous credit undertakings,[1] deposit money banks (DMBs) and pension funds. Residential credit cannot be directly disaggregated from other lending, since mortgage collateral is generally insisted on for loans regardless of whether they are for housing purchases or other investment. Total lending to households amounted to 1,275 b.kr. in April 2007, up by 14% year-on-year from 1,117 b.kr.

DMB lending to households has soared, as Chart 1 shows. It amounted to 745 b.kr. at the end of May 2007, compared with 192 b.kr. in the corresponding month in 2004, a growth rate of 286%. By comparison, pension funds' loans to members increased by 22% from

Chart 1
Total household borrowing
January 2004 - April 2007, end of month



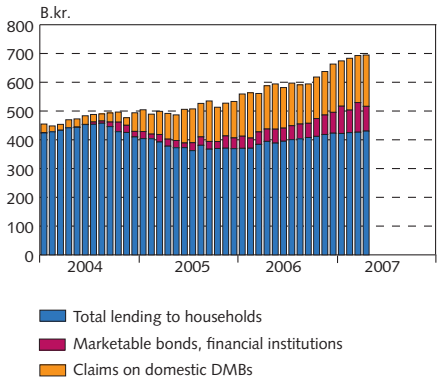
Source: Central Bank of Iceland.

1. Miscellaneous credit undertakings comprise the Agricultural Loan Fund, Avant, Frjálsi investment bank, Greiðslumiðlun (VISA Iceland), the Housing Financing Fund, Kreditkort (Eurocard Iceland), Lýsing, MP investment bank, the Municipal Loan Fund, the Regional Development Institute, SP-Fjármögnun, Straumur investment bank and VBS investment bank.

Chart 2

Main assets of miscellaneous credit undertakings

January 2004 - April 2007, end of month



Source: Central Bank of Iceland.

April 2004 to April 2007. Residential mortgage lending accounted for almost 57% of total DMB lending to households in April 2007.

Total household lending by miscellaneous credit undertakings contracted from autumn 2004 until mid-2005 and remained broadly flat until March 2006, but has grown slowly since. The outstanding loan stock at the end of April 2007 was 430 b.kr., as against 442 b.kr. in April 2004. The HFF dominates household lending by miscellaneous credit undertakings.

Chart 2 shows the growth in claims on domestic DMBs and marketable securities portfolios of miscellaneous credit undertakings in recent years. Easier terms in the mortgage loan market have encouraged borrowers to refinance earlier loans which had carried less favourable terms. The bulk of lending by miscellaneous credit undertakings is long-term, as are claims on DMBs, but marketable bonds are mostly at short maturities. The HFF has amassed strong liquidity from prepayments, which it has invested in long-term claims on DMBs and short-term arrangements with financial undertakings.

Mortgage terms are easier in 2007 than they were in 2004. Interest rates are similar but credit access, loan amounts and loan-to-value ratios are more favourable for borrowers. Demand for residential credit has grown because potential homebuyers no longer need to reach a threshold of saving in order to climb onto the housing ladder, opening up the housing market to young people who would have lived with their parents for longer. Offsetting this, soaring house prices have increased the debt service burden, specially for first-time buyers.

Tables and charts

Tables and charts are generally based on statistical information available on June 13, 2007, apart from financial market data, which are from May 31, 2007. A list of symbols is on p. 2.

A Tables

B Charts

Table 1 Main monthly indicators

	Consumer prices		Exchange rate		Yields (end of period, %)						Money and credit (end of period)[5]			
	% change in CPI[1] over the previous		% ch. in effective exchange rate [1,2]		Short-term			Long-term[4]			12-month % change			
	1 month	12 months	1 month	12 months	Central Bank collateral loans	3-month REIBOR[3]	RIKB 10 0317	RIKB 13 0517	RIKS 15 1001	HFF 150644	Base money	M3	DMB lending[6]	DMB foreign liabilities
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														
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	27.8	23.3	51.1	96.8
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	14.00	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	14.00	14.5	9.7	8.4	4.8	4.3	37.3	9.4	36.8	75.4
December	0.0	7.0	-2.1	-15.4	14.00	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	14.25	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	14.25	15.3	9.9	8.8	5.5	4.4	44.4	17.9	32.1	55.8
March	-0.3	5.9	-0.2	-3.1	14.25	13.8	10.5	9.1	5.0	4.3	-8.4	14.9	27.8	40.1
April	0.6	5.3	1.0	6.4	14.25	14.1	10.8	9.2	.	4.3	102.7	26.1	26.6	31.7
May	0.9	4.7	3.6	9.7	14.25	13.9	10.8	9.1	.	4.3	...	...	...	...
June	0.5	4.0	...	...	...	...	...	...	.	...	...	...	...	...

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]											
2002	37.2	2.5	0.2	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	0.3	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	0.2	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	0.2	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	0.2	18.0	-148.6	242.7	391.3	8.5	104.2	1.3	9.5	17.3	15.8	5.0
2005														
October	59.5	2.7	0.2	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	0.2	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	0.2	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	0.2	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	0.1	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	0.1	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	0.1	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	-9.1	20.0	29.1	11.1	106.8	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	4.8	0.2	1.2	-20.9	20.1	41.0	11.2	101.1	1.1	9.8	17.3	15.8	5.0
2007														
January	160.4	4.9	0.2	1.9	-0.3	25.9	26.2	30.6	102.3	1.3	10.1	45.5	12.3	6.9
February	160.1	4.9	0.2	1.6	-5.0	23.9	28.9	22.5	105.6	1.3	9.8	30.5	10.8	5.0
March	154.6	4.8	0.1	1.6	-3.4	30.6	34.0	12.9	104.8	1.3	9.7	29.0	27.1	5.8
April	151.1	4.8	…	1.8	-11.3	19.0	30.3	1.5	105.9	1.1	9.8	23.5	39.1	5.3
May	144.5	…	…	1.5	…	…	…	…	…	1.1	…	…	43.1	…
June	…	…	…	…	…	…	…	…	…	…	…	…	…	…

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. OMI15 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 (OMX Iceland), 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]			Banks' secured lending (real yield)		% change over year					
	Consumer price index[1]	CPI inflation (%)	Nominal exchange rate[2]	Relative CPI	Relative ULC	Gov. bonds average yield[4]	Non-indexed	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. 2000=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

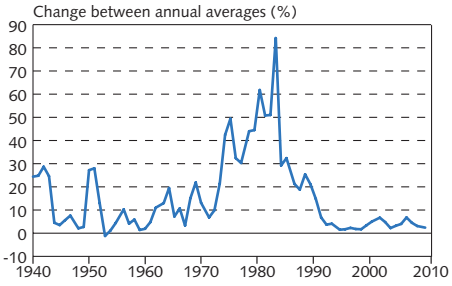
	Components of GDP (% change from previous year)			External trade (% change from previous year)							Labour market (% of labour force)		Wages (% change from previous year)	
				Goods & services (volume changes)				General government (% of GDP)[7]						
	Private consump-tion	Gross fixed cap. formation	National expendi-ture	Exports	Imports	Terms of trade	Curr. acc. balance (% of GDP)	Financial balance	Revenues	Expend-itures	Unem-ployment	Labour particip.[8]	Real wages[9]	Real disp. income 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	81.0	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	81.8	-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	81.1	-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	81.3	-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	82.9	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	81.6	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	81.0	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	82.3	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	83.2	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	83.5	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	83.6	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	82.8	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	82.1	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	80.7	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	81.9	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	83.1	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. Statistics Iceland wage index. Deflated by consumer prices. Since January 2007, the 12-month percentage change in marine product prices denominated in the króna.

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

Chart 1

Consumer price inflation 1940-2009[1]

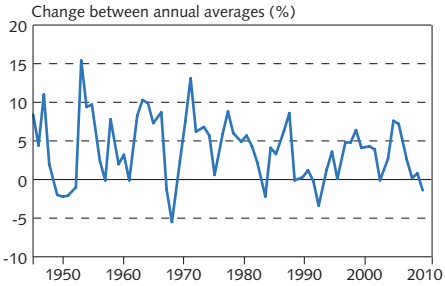


1. Central Bank forecast for 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2

Economic growth 1945-2009[1]

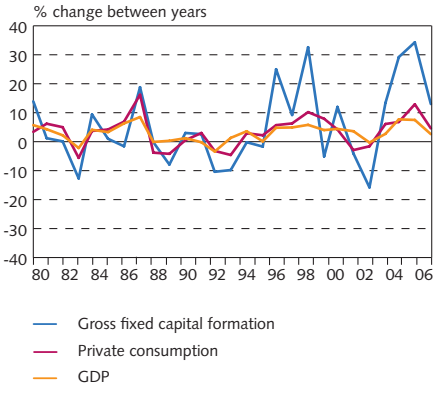
Change in real GDP between years



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

Chart 3

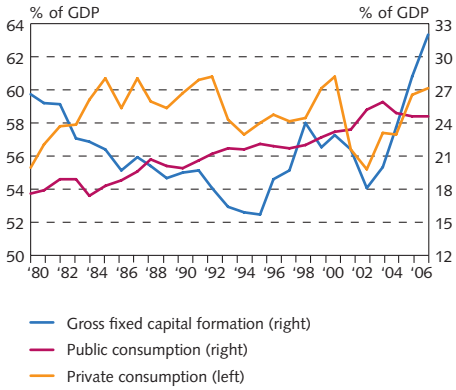
Growth of GDP, private consumption and gross fixed capital formation 1980-2006[1]



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

Chart 4

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

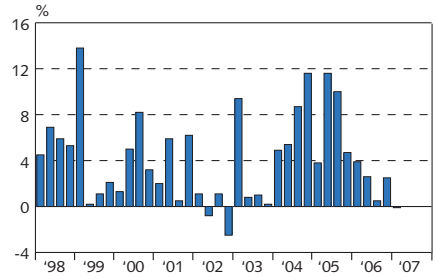


1. Preliminary 2006.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 5

Quarterly economic growth Q1/1998 - Q1/2007[1]

Volume change in GDP over four quarters (%)

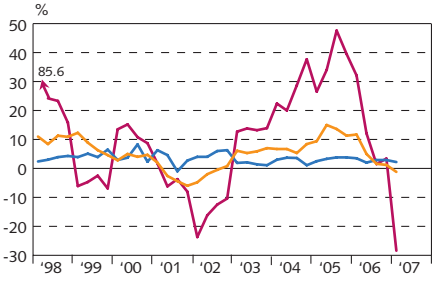


1. Latest data are preliminary.
Source: Statistics Iceland.

Chart 6

Components of economic growth Q1/1998 - Q1/2007[1]

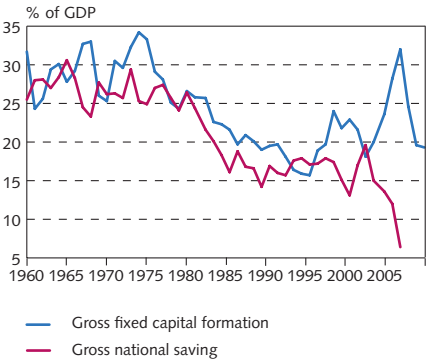
Volume change over four quarters (%)



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

Chart 7

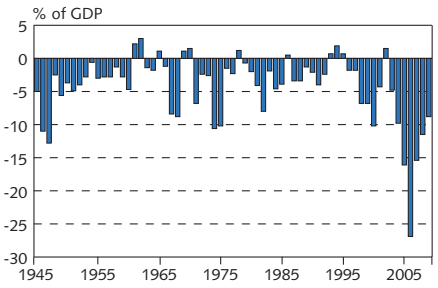
Gross national saving and fixed capital formation 1960-2009[1]



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

Chart 8

Current account balance 1945-2009[1]

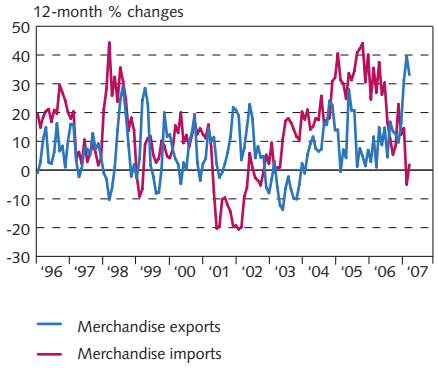


1. Preliminary 2006. Forecast 2007-2009.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 9

Merchandise trade January 1996 - April 2007[1]

3-month moving averages at constant exchange rate

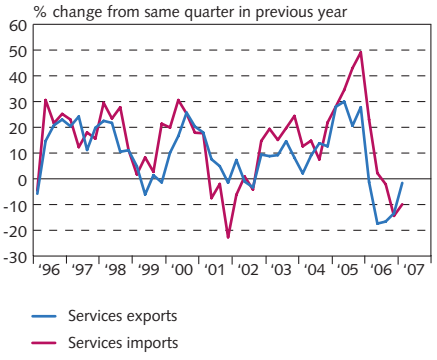


1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 10

Exports and imports of services Q1/1996- Q1/2007[1]

At constant exchange rate

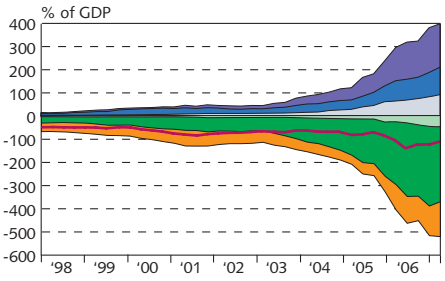


1. Latest data are preliminary.
Source: Central Bank of Iceland.

Chart 11

External debt and assets Q1/1998 - Q1/2007[1]

At current prices

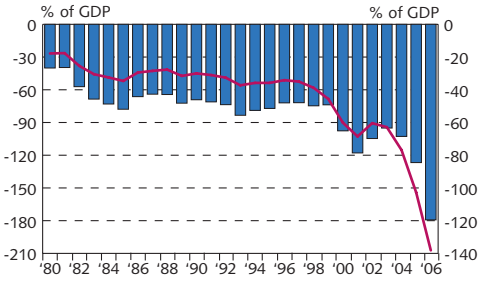


1. Latest data are preliminary.
Source: Central Bank of Iceland.

Chart 12

External debt position 1980-2006[1]

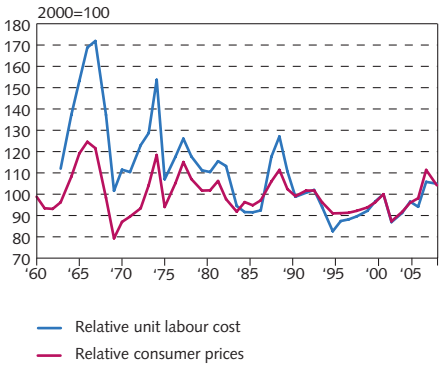
At end of year



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

Chart 13

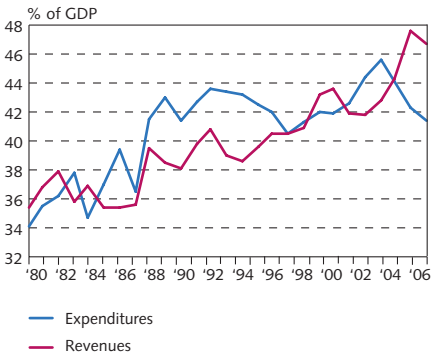
Real effective exchange rate of the Icelandic króna 1960-2006[1]



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

Chart 14

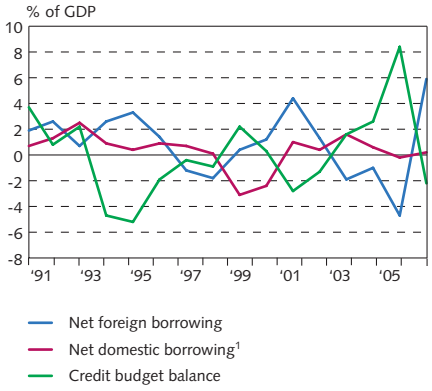
General government revenues and expenditures 1980-2006



Source: Statistics Iceland.

Chart 15

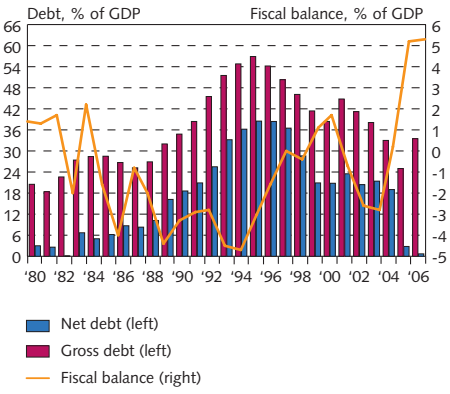
Treasury borrowing 1991-2006



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

Chart 16

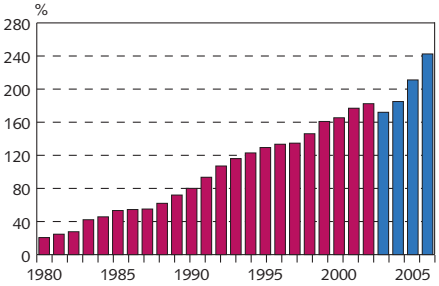
General government balance and debt 1980-2006



Sources: Statistics Iceland, Central Bank projections.

Chart 17

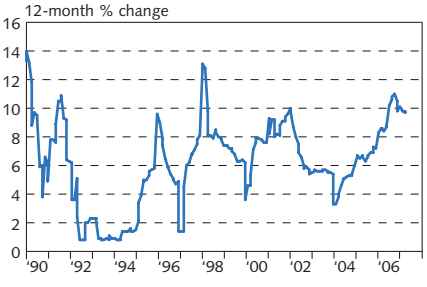
Household debt as percentage of disposable income 1980-2006[1]



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

Chart 18

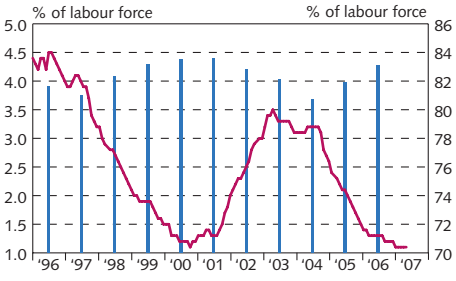
Real wages January 1990 - April 2007



Source: Statistics Iceland.

Chart 19

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



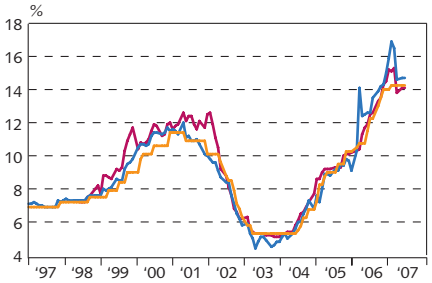
Participation (right)
Unemployment, seasonally adjusted (left)

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 - May 2007

At end of month



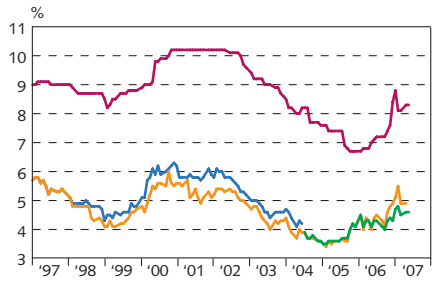
3-month Treasury bills
3-month REIBOR on the interbank market
Central Bank policy rate

Source: Central Bank of Iceland.

Chart 21

Long-term interest rates January 1997 - May 2007

At end of month



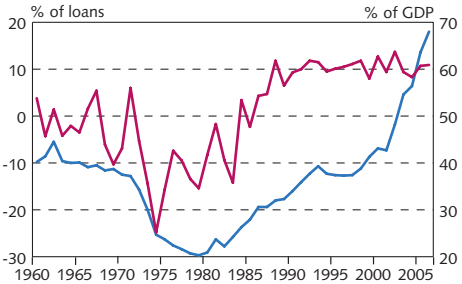
25-year Housing bonds
Secured bank loans
15-year Treasury bonds
30-year HFF bonds

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

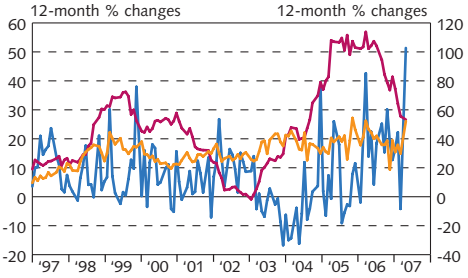


M3 (right)
Real yield (left)

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

Chart 23

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

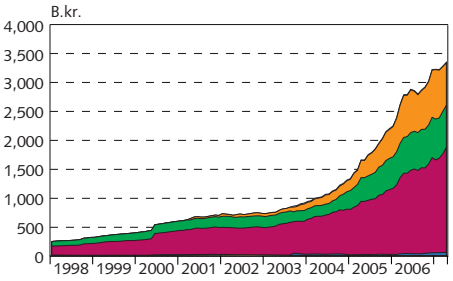


Base money (right)
DMB lending (left)
M3 (left))

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

Chart 24

Deposit money bank lending by sector January 1998 - April 2007[1]



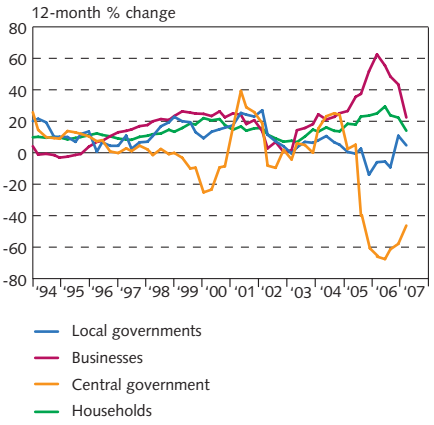
Treasury and government institutions
Industries
Foreign sector
Credit institutions
Households
Other

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

Chart 25

Growth of credit system lending Q1/1994-Q1/2007

Lending by sectors[1]

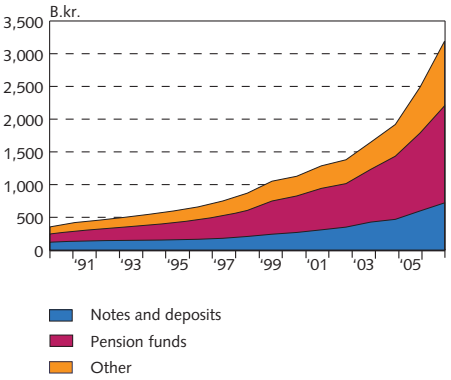


1. Reclassification of lending in September 2003 based on the ÍSAT-95 standard led to a reduction in household debt figures and an increase in business and municipalities' debt figures. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 26

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

At current prices

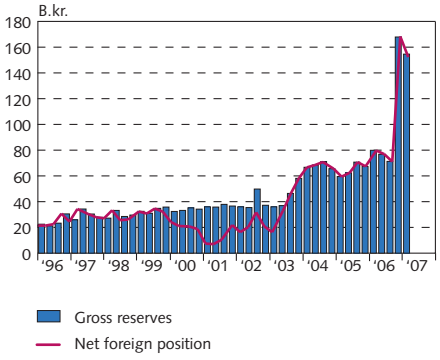


1. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 27

Reserve assets and Central Bank net foreign position, Q1/1996 - Q1/2007[1]

Quarterly, at current exchange rates



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