Economic and monetary developments and prospects[1]

Near-term inflationary pressures ease despite higher output growth, but inflation will exceed the target if monetary policy remains unchanged

Output growth in 2003 appears to have exceeded the Central Bank's forecast in November. Nonetheless, inflationary pressures so far this year have been more subdued than was forecast at that time. The reasons are an apparent surge in productivity and the appreciation of the króna. Another important factor is that national expenditure growth has been channelled into increased imports, causing a widening current account deficit, and therefore does not exert so much pressure on domestic factors of production and prices. The updated inflation forecast assumes that the proposed expansion at the Norðurál aluminium smelter will go ahead. For this and other reasons, the GDP growth forecast has been revised upwards since November to 3½% in 2004 and 4½% in 2005. On the whole, recent private sector wage settlements are compatible with the Central Bank's inflation target; one of the points that the settlements hinge on is that inflation will keep within the target. Inflation will remain within target until the second half of 2005 when it will move above it, provided that the Central Bank's policy interest rate and the exchange rate remain unchanged. The above-normal strength of the króna at present needs to be borne in mind, however. In light of these developments, the Central Bank has so far not considered the time to be ripe for raising its policy interest rate. However, other things being equal, the inflation forecast presented here will call for a rise in the policy rate at some time in the coming months.

I Economic developments

Inflation has been marginally below the 2½% inflation target over the past four months and is broadly unchanged since the last *Monetary Bulletin* in November. Conditions for price stability have been favourable. The króna has strengthened considerably since the summer and in February it had returned to its position in spring 2003, while the rate of housing price increases has slowed down markedly. Brisk growth in private consumption is largely explained by increased demand for consumer durables, which are predominantly imported. Thus strong expenditure growth was reflected more in a widening current account deficit than in increased demand for domestic factors of production, which would have entailed more pressures on prices. Some excess capacity remains in the labour market, although unemployment is inching downwards. If investments in the hydropower sector in east Iceland were not in progress, the exchange rate would have been weaker and interest rates lower. Exports have been flat in 2003 and so far this year. The interaction of subdued exports and rapid growth in national expenditure have led to a widening of the current account deficit, probably to the equivalent of 5½% of GDP last year. A sizeable share of the deficit is explained by

1. This article uses data available on March 10, 2004.

increased imports of investment goods in connection with the hydropower project. On the other hand, this is offset by the deficit on income, which would have been much wider had foreign interest rates not been unusually low.

Price developments

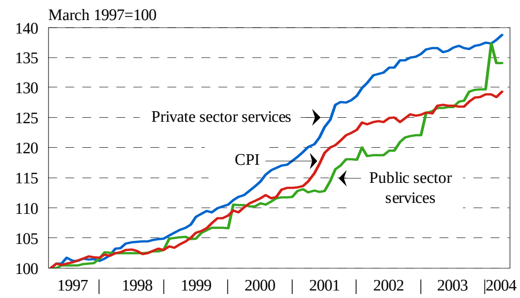
Inflation has been close to the target since the last *Monetary Bulletin* was published in November. After inching up in December it has slowed again and in the beginning of March measured 1.8% year-on-year. The underlying rate of inflation is somewhat higher. Core index 2, for example, which is the consumer price index (CPI) excluding changes in prices of domestic food, vegetables, fruit and petrol as well as public services, rose by 2% over the same period.

The housing component explains almost half the rise in the CPI over the past twelve months. However, housing price inflation has slowed down sharply in recent months. The twelve-month rate of increase peaked at 11% in August 2003, but was down to 6.7% in the beginning of March. Much of the remainder of the CPI rise stems from higher prices of public services. This development should be seen in the context of the much lower rise in public services prices, compared with private sector prices, from the beginning of 2000 to spring 2002. Since then these two components have largely converged and public sector price increases can be expected to slow down in the course of time.

At the same time as housing price rises have been slowing down, the decline of goods prices that was felt last year has largely come to a halt. In the beginning of March, prices of imported goods excluding alcohol and tobacco were ½% lower year-on-year and prices of domestic goods excluding agricultural products, fruit and vegetables marginally higher. Last summer, the twelve-month decrease in imported goods prices was 2-3%. These changes reflect movements in the exchange rate of the króna, which appreciated until last spring, weakened in the summer and then rallied to return by February to roughly its strength in spring 2003. Exchange rate fluctuations are transmitted to prices with a considerable lag and often only partially, in cases of minor or short-lived volatility.

Chart 2

The CPI and indices of public sector and private sector services 1997-2004

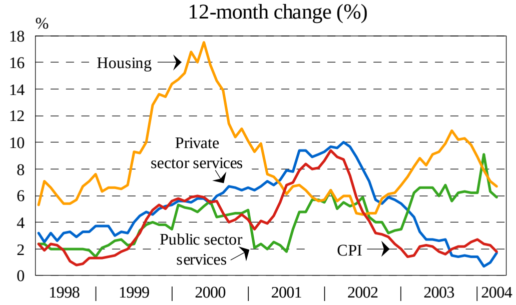


Source: Statistics Iceland.

Chart 1

Housing and services components of the CPI 1998-2004

12-month change (%)

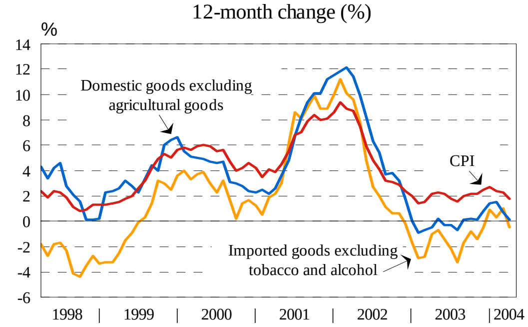


Source: Statistics Iceland.

Chart 3

Goods prices and the CPI 1998-2004

12-month change (%)



Source: Statistics Iceland.

Financial market inflation expectations in line with the target

Despite some fluctuations within the period, the breakeven rate of inflation on two- to three-year non-indexed Treasury bonds in recent weeks has been broadly the same as at the end of October, at roughly 2% for a two-year maturity and 2½% for three years. Since the aluminium industry investments will be in full swing within three years, it may be inferred that financial market participants are convinced that these will not cause inflation to surge within the period. The breakeven inflation rate rose somewhat from the autumn to the beginning of 2004, when the three-year rate reached 3%, but it dropped sharply afterwards and at its low in the first half of February was as much as 1 percentage point down.

Household inflation expectations have not changed much either. In a survey conducted in February, respondents expected 3.3% inflation on average, which is a statistically insignificant increase from the previous survey in October. On average, households expect a rather higher rate of inflation than financial market agents. There is also a tendency among households to assess a higher rate of past inflation than the CPI actually shows; they assumed the twelve-month rate to have been 3%.

Output and demand

Last year's output growth was not driven by favourable external conditions or increased exports. On the contrary, exports were flat and merchandise exports contracted by 1%. Fish catches decreased, especially of pelagics, and export prices of marine products fell by an average of 5½%. In the aluminium sector, production was broadly unchanged between the years and prices headed upwards during 2003, after being subdued for several years. Manufacturing exports excluding aluminium and ferrosilicon had soared in recent years, but shrank back by almost 8% in 2003. Fish catches picked up towards the end of last year, as reflected in higher year-on-year merchandise export growth in the final months of 2003, but pelagic catches were poor in the beginning of 2004.

Output growth in 2003 is primarily explained by substantial growth of national income. The national accounts for the whole of 2003 are not yet available, but GDP growth in the first three quarters was more than 3%. Gross fixed capital formation grew substantially in Q3. Foreign trade made a significantly negative contribution to output growth in the second and third quarters, the current account widened markedly and imports increased at their fastest pace since 1998.

Private consumption in Q3 increased by 6½% year-on-year, according to the national accounts. Although the rate of increase was marginally lower

Table 1 National accounts in the first three quarters of 2003

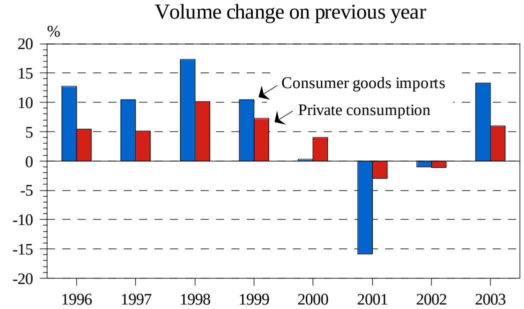
Volume change on previous year %	*Q1*	*Q2*	*Q3*	*Q1-Q3*	*Forecast for 2003*[1]
Gross domestic product	3.0	2.9	3.2	3.1	2
National expenditure	1.5	9.3	9.3	6.8	5¼
Private consumption	5.2	7.2	6.5	6.3	5½
Public consumption	4.0	4.7	3.8	4.2	3½
Gross fixed capital formation	-10.0	17.2	26.9	10.4	6¾
Exports of goods and services	4.8	-5.2	1.0	0.1	0
Imports of goods and services	0.7	10.5	15.8	9.3	8½
% of GDP					
Current account balance	-1.3	-8.6	-6.2	-5.4	-3½

1. Central Bank forecast in November 2003. *Sources:* Statistics Iceland, Central Bank of Iceland.

Chart 4

Growth of consumer goods imports and private consumption 1996-2003

Volume change on previous year



1. Private consumption in 2003 based on Central Bank forecast. *Source:* Statistics Iceland.

than in the preceding quarter, it was still some way above the Central Bank's estimate for the second half of the year. The November forecast implied private consumption growth of only 3½% in Q4, which seems unlikely given the hefty turnover and imports that took place then.

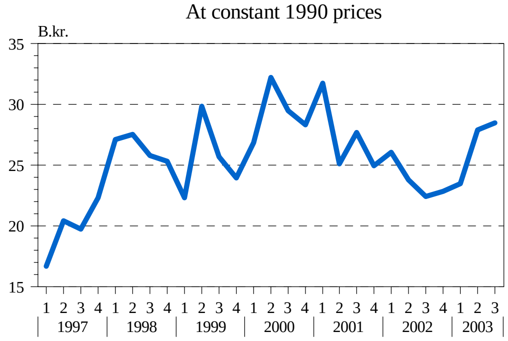
Gross fixed capital formation in Q3 was estimated 27% higher than in the corresponding period in 2002. This reflects heavy imports of investment goods during the quarter, as well as the base effect of the low that was reached in Q3/2002, as Table 5 shows. Investment was clearly under-estimated in the November forecast. This probably applies to business, public and housing investment, but these are not specified in the quarterly national accounts data.

Available data on output and changes in labour use indicate a sharp rise in labour productivity last year. As described in more detail below, labour use apparently shrank year-on-year, although a precise estimate is not possible. Productivity commonly surges as an economic recovery gets under way, when considerable excess production capacity is available and output can be increased without taking on additional labour. During the boom of 1998-2000, substantial growth in investment boosted production capacity. The resulting potential gains in efficiency were still emerging last year. For example, after increasing rapidly in 1999-2001, staffing levels in the retail sector have shown a marked drop over the past two years, when new retail businesses crowded others out.

Chart 5

Gross fixed capital formation 1997-2003

At constant 1990 prices



Source: Statistics Iceland.

The current account deficit widened in Q2/2003 and for the last three quarters of that year it was equivalent to roughly 7% of estimated GDP on average. A deficit on that scale at that time of year has not occurred since 2000; in Q1/2003 it was only just over 1%. Thus the current account deficit was considerably wider than the Central Bank had forecast in November. As it happens, merchandise exports picked up slightly towards the end of the year, but import growth remained broadly the same as earlier in the year. In Q4 the service deficit widened substantially year-on-year, which contributed to the higher-than-forecast figure.

Labour market

National expenditure grew rapidly last year with increased allocations under public sector job creation programmes and the launch of hydropower construction. Under such conditions, a fairly swift drop in unemployment could have been expected. Despite clear signs of recovery and an increase in vacancies, however, unemployment has only fallen fairly slowly. In January 2004, seasonally adjusted unemployment was 3.1%, a decrease of 0.4 percentage points since August 2003. Presumably this slow adjustment of the unemployment rate is partly due to Iceland's flexible labour market. Changes in labour demand are not transmitted in full to unemployment figures, but also reflected in working hours and labour market participation. An increase is registered in the volume of labour, defined as the product of hours worked and number employed. Statistics Iceland's labour market survey in 2003 is not fully comparable with those in previous years. However, a rough comparison suggests that the volume of labour did not contract any less last year than the estimated 3% recorded in 2002.

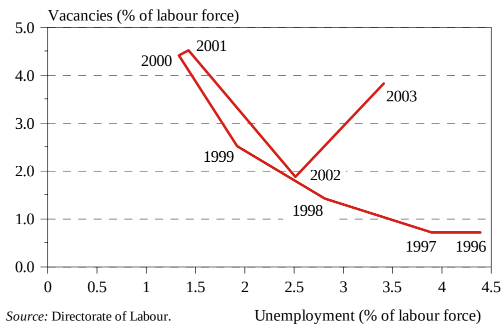
Output growth without a corresponding increase in employment is common at the start of an economic recovery, and is linked to factors such as higher productivity, as mentioned above. Another conceiva-ble factor may be that the jobs on offer do not suit those who are seeking work. This is reflected in the rise in unemployment between 2002 and 2003 at the same time as vacancies doubled.

The relationship between demand and supply in the labour market can be examined using a Beveridge curve, which plots vacancies (the vertical axis on Chart 6) against unemployment (horizontal axis) over a period of time. The chart shows that both supply of jobs and unemployment increased in 2003, while in the case of a cyclical change in labour demand, unemployment and vacancies could be expected to move in opposite directions. The Beveridge curve for last year may be interpreted as showing a mismatch between supply and demand, i.e. that the jobs on offer were not suitable for the unemployed.

Chart 6

Unemployment and vacancies 1996-2003

Beveridge curve



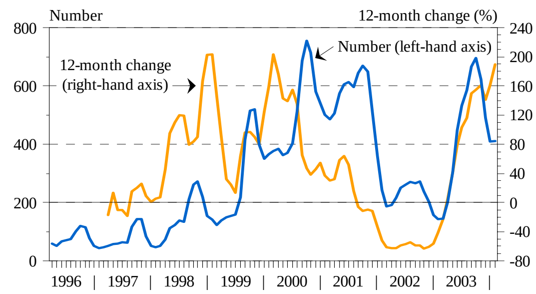
Source: Directorate of Labour.

Such a mismatch is understandable, given the composition of unemployment. The Greater Reykjavík Area has experienced more unemployment than the rest of Iceland, apart from the southwest Reykjanes region. New jobs have not been created where unemployment is highest. In 2003, some 70% of the unemployed lived in or around the capital, where only 30% of the vacancies were to be found. In January the mismatch was even more marked and only one out of four vacancies was in the Greater Reykjavík Area, while the largest increase was in east Iceland. Aluminium-related construction work and other projects appear to have been the main driver of job creation in regional Iceland, and probably in fields more suited to the interests, educational background and skills of males rather than females. The highest unemployment rate was in the Reykjanes region, and it was higher among females than males.

Chart 7

Listed vacancies 1996-2004

3-month moving average



Source: Directorate of Labour.

Growth in labour demand is also reflected in increased issue of new work permits. This trend has been offset by some reduction in work permit extensions, but this is partly explained by the gradually increasing number of foreign workers who have received permanent work permits in recent years. Although 50-60% more new work permits have been issued recently than a year before, figures are still some way below those for 2000 and 2001.

Wage increments in the beginning of 2004 affected only part of the labour force. This led to a slowdown in year-on-year wage growth as measured by the wage index, which had gone up by 3.3% year-on-year in January 2004. If members of the federations of blue-collar unions Starfsgreinasambandið (SGS) and Flóabandalagið (FB, comprising SGS member unions in southwest Iceland) vote in favour of the wage settlements signed with the Confederation of Employers (Samtök atvinnulífsins, SA) on March 7, their basic wages will rise by 3.25% when the agreement takes effect, and wage cost by a total of 4.3%. Details of the wage settlements are presented in Box 1. Total wage cost will rise by 15% over the four-year settlement period, corresponding to an annual increase of 3½%. Assuming that wage drift and other factors generally add a further 1-1½% in an average year, the settlements can be expected to imply a 4½-5% net rise. Given that productivity growth is normally around 1½% per year and global inflation is lower than the Central Bank's target, a 4½% rise in wage cost is likely to be consistent with the inflation target, although perhaps towards its upper limit. This is mainly because of the higher rise in the first part of the settlement period, however; in the second part the increases are well compatible with the inflation target. The initial increase should also be seen in the context of apparently very high productivity growth last year (see p. 17) and provisions in the settlement that create scope for more flexible working hours and inducing greater efficiency in business operations, which could raise productivity growth and lower wage cost even further. Thus on the whole the settlements are consistent with the inflation target – and in fact one of the premisses on which they are based is that inflation remains within the target. Other factors that contribute to stability are the longer duration of the settlements and stronger disincentives to revoking them before they expire. These settlements can be expected to set a precedent for pending settlements with other unions. More wage cost increases than assumed here, for example with extra provisions made in other unions' wage settlements, will exceed a level consistent with the inflation target.

Box 1 Wage settlements

Two major federations of blue-collar unions, Starfsgreinasambandið (SGS) and Flóabandalagið (FB, comprising SGS member unions in southwest Iceland) signed new wage settlements with the Confederation of Employers (Samtök atvinnulífsins, SA) on March 7, 2004. The wage settlements are essentially the same for all the unions involved. In terms of man-years they apply to up to one-quarter of the private sector labour market, but their impact on labour costs will probably apply broadly to the labour market as whole.

Increase in wage costs under first major private sector wage settlement

%	*2004*	*2005*	*2006*	*2007*	*Total*
Basic wage rise	3.25	3.0	2.5	2.25	11.5
Pay-scale increments	1.0	.	1.0	.	2.0
Pension fund	.	0.6	.	0.5	1.1
Job training provisions	.	.	0.05	0.1	0.2
Total	4.3	3.6	3.6	2.9	15.1

The total cost to employers for the duration of the settlements is estimated at 15.1%, or an average of 3.6% per year, gradually decreasing as the accompanying table shows. By comparison, the wage settlement agreed by the same bodies in 2000 implied a rise in wage costs of just under 19%, or an average of 4.4% annually.

There are three main pillars in the settlements: basic wage rises, pay-scale increments and an increase in the employers' mandatory contribution to collective pension funds. Basic wages will increase by a total of 11.5% over the period. Wages rise by 3.25% immediately when the settlements take effect, 3% at the beginning of 2005, 2.5% in 2006 and 2.25% in 2007.

The minimum daytime wage guarantee will increase from 93 thousand kr. to 108 thousand kr. during the settlement period, or 4.2% more than basic wages.

One important feature of the settlements is the implementation of new pay scales and the incorporation of various bonus and overtime payments into basic wages in two phases, when the agreements take effect and in January 2006. The additional cost of these changes is estimated at 1% for each phase. In the pay-scale review, provisions on shift work and working hours, affecting individual occupations or workplaces, will be changed. The resulting more flexible working hours and shift arrangements will enable restructuring and thereby contribute to increased productivity.

The settlements also represent a step towards harmonisation of pension rights in the labour market, by raising the employer's mandatory fund contribution from 6% to 8%. From January 1, 2005 employers will no longer be obliged to pay 1% to a supplementary pension fund with no matching employee contribution, but will pay an extra 1% to the mandatory fund instead. The mandatory fund contribution will go up by a further 1% on January 1, 2007. However, employees will still be entitled to a contribution by employers of up to 2% towards their supplementary pension schemes, if they match this with a contribution of their own. The extra cost to employers is less than the additional mandatory fund contribution, at 1.1%. This is because the switch from supplementary to mandatory fund contributions entails an extra cost of only 0.6%, since not all employees take part in the voluntary supplementary schemes, and also because a 0.45% reduction in national insurance contributions will partly offset the contribution hike in 2007.

The chief strength of the new settlements is their long duration of almost four years, until December 31, 2007. However, they contain similar trigger clauses to the settlements made in 2000, whereby settlements can be revoked if the premisses on which they are based fail to hold. This could happen if inflation deviates from the Central Bank's inflation target or other settlements do not entail broadly the same wage increases. A committee appointed by the Federation of Labour (ASÍ) and SA will meet twice (in November 2005 and 2006) to review whether the premisses have held. If the conclusion is that they have not, either the wage part of the package will be renegotiated, or the settlements will be revoked and expire as of the end of the respective year. An important consideration in the latest settlements, however, is the wider ramifications of revoking them. Under the previous settlements this would only have cancelled basic wage rises, but now the second pay-scale change and the second increase in employer pension fund contribution will not take effect either.

In connection with the signing of these agreements, the government made a commitment to back a 0.45% reduction in national insurance contributions in 2007, provided that SA agrees to raise contributions to mandatory funds from 7% to 8% at the same time. The government will also support a 3% increase in unemployment benefit over and above rises in the minimum wage guarantee over the period. Finally, the government will ensure that contributions continue to be made into a fund for job training until it is taken over by employers when the settlements expire. This measure will cost the Treasury 2½ b.kr.

Financial markets

Since the end of October, the financial markets have been characterised by continued inflows of foreign borrowed funds, increased lending growth, expanding broad money, buoyant equity prices and an appreciation of the króna. There is a causal relationship between all these factors, since it is likely that the flurry of leveraged buyouts and changes in corporate ownership structure in recent months has largely been financed by foreign borrowing, which in turn has bolstered the króna.

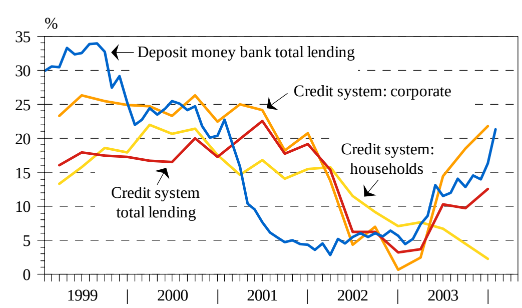
Corporate borrowing soars

Growth in deposit money bank (DMB) lending has been gaining pace in recent months. By the end of January, twelve-month lending growth was 21%, excluding what was actually a very minor impact of indexation and exchange rate changes on the outstanding loan stock. The rate of lending growth has not increased so rapidly since the beginning of 2001. Obviously, credit growth on such a scale is unsustainable in the long run, and all the more so insofar as it has not apparently been allocated to business investment. Nonetheless, the corporate sector has been responsible for the bulk of new lending. Accounts for the credit system as a whole are available until the end of December. Although exact comparison is clouded by a reclassification of loans, lending to businesses at the end of 2003 would appear to have risen by one-fifth from a year before. Corporate borrowing seems to have gone on growing, judging by figures for DMB lending until the end of January.

Chart 8

Credit growth 1999-2004

Lending by credit system (quarterly data) and deposit money banks (monthly data)



Source: Central Bank of Iceland.

Lending to households is still on the increase as well. Estimated twelve-month growth at the end of December was 13%. However, household debt has gone down, based on the newly revised loan classification.[2] Lending by the Housing Financing Fund showed brisk and accelerating growth until the end of the year, but slowed down somewhat in January.

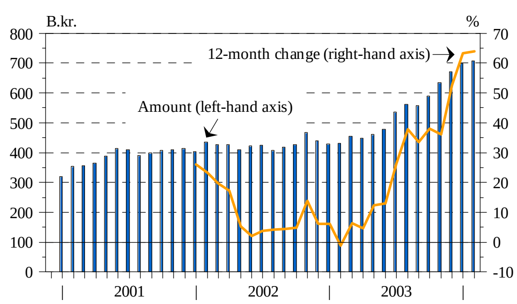
Rapid growth in credit institutions' foreign borrowing

External debt of DMBs at the end of January 2004 had grown by 276 b.kr. (64%) year-on-year. There are probably a number of explanations for this strong demand for foreign borrowing. Firstly, it is connected with changes in Icelandic corporate ownership structure. Following their privatisation, the former State banks have been actively involved in dissolving the old structure of corporate ownership and forging a new one. Foreign funding, mediated by the banks, has played a key role in these events. Secondly, conditions in international finance markets have been favourable for such reshuffling. Foreign short-term interest rates are still close to a historical low and foreign long-term interest rates are still very low, although they have risen above the nadir they reached around the middle of last year. Interest rates on 10-year T-bills in the US and euro area have been just over 4% recently, and US rates were roughly 1 percentage point lower than at bottom. Thirdly, Iceland enjoys economic stability and growth prospects are favourable for the next few years.

Chart 9

Foreign debt of DMBs 2001-2004

Position at end of month and change from previous year



Source: Central Bank of Iceland.

Sharp expansion of M3

Broad money (M3) expanded rapidly in 2003. By the end of January M3 has grown by roughly one-quarter in the space of a year. Although the relationship between broad money and aggregates such as inflation is unreliable in the short run, growth on such a scale merits closer attention in the near future. Of course there is ultimately a correlation between heavy capital inflows and broad money, since at some stage this capital assumes the form of deposits with Icelandic DMBs, at least if it is not relent to foreign entities. Whether this capital, e.g. the receipts from equity sales in leveraged buyouts, will remain in the Icelandic banking system for the long term or soon return abroad is difficult to assess at present.

Real interest rates around 3%

The Central Bank's policy interest rate has remained unchanged since February 2003, at 5.3%. Money market rates have generally remained marginally below the policy rate, which implies adequate liquidity. On the basis of the breakeven inflation rate on non-indexed 2-3-year Treasury bonds, expected inflation has recently been broadly unchanged from the end of October, after rising until the end of last year and falling until February. Real interest rates, measured in terms of the breakeven inflation rate, have mostly been in the region of 3%, depending upon maturity. The interest-rate differential with abroad has widened, however, and has been in the range 3-3½% so far this year.

Low foreign interest rates help bring domestic rates down

Favourable terms for foreign borrowing, which credit institutions have taken advantage of on a large scale, have created a climate for reducing domestic lending rates. Average interest rates on non-indexed loans from commercial banks and savings banks were roughly 1 percentage point lower in February than a year before, and the decrease was marginally more on indexed lending. Recent average prime interest rates on indexed loans have been just under 6%, down by around 0.6 percentage points since the end of October. Their spread against government savings bonds narrowed between the autumn and February, from 5.2% at end-October to 4.2% on February 20. Against housing bonds, the spread shrank by even more for a while when yields rose. Prime interest rates on non-indexed lending went down by 0.2 percentage points at the same time, to roughly 8.2%.

2. The loan reclassification is discussed in Box 1 in the Financial stability report on pp. 39.

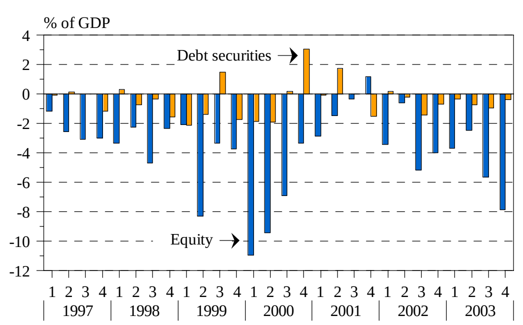
These rates have normally changed in pace with the Central Bank's policy rate, but in the past few months the spread has narrowed slightly.

Surge in currency outflows for foreign portfolio investment in 2003

Alongside heavy currency inflows caused by foreign borrowing, outflows have increased due to foreign portfolio investment by Icelanders, especially in equities and units in mutual funds. In Q3, investment in foreign portfolios was equivalent to just under 6% of GDP for that quarter, the largest figure since 1999-2000. Currency outflows on portfolio investment counteract the effects of foreign borrowing on domestic liquidity. Had pension funds and other domestic investors invested the same amount in domestic instead of foreign securities, domestic interest rates would presumably be lower or equity prices even higher. The króna might have been slightly stronger in the short run as well.

Chart 10

Portfolio investment abroad 1997-2003



Source: Central Bank of Iceland.

Equity prices up by one-third since the end of October

From the end of October 2003 to the end of February, the ICEX-15 index rose by one-third. It is natural to ascribe this increase to business takeovers, since profitability forecasts do not appear to have improved enough to justify such a large rise, nor would demand from major domestic institutional investors seem to be the reason. Pension funds seem to have held back on domestic equity investments. As long as share prices remain buoyant, businesses enjoy favourable financial conditions. Not many companies have the opportunity to raise investment capital through share offerings, but the ones that do rank with the strongest in Iceland. In return, sellers of equities receive liquid funds either in Iceland or abroad, and the macroeconomic impact varies depending upon which predominates.

Movements in the exchange rate of the króna affect financial conditions, but their impact is often ambiguous. Strengthening of the króna eases foreign debt service but if it is regarded as temporary, it will cause a corresponding rise in the expected future debt service burden. Thus an appreciation that is perceived as short-lived may discourage foreign borrowing. At the same time, a stronger króna creates tighter competition in the traded goods sector, and may dampen credit demand. Since the pending aluminium industry investments and accompanying currency inflows ought to support the króna for some time, exchange rate volatility might be perceived as less a risk in foreign borrowing than under normal conditions, at least in the short run.

Financial conditions of businesses and households have eased from end-October

From a corporate viewpoint, financial conditions at present are probably rather more favourable on the whole than at the end of October. Interest rates have gone down despite the unchanged policy rate, suggesting easy access to credit. Some companies also benefit from higher equity prices. And while the stronger króna could squeeze businesses in the traded goods sector, it provides relief in terms of foreign debt service. Financial conditions have probably eased since end-October for households as well, and the outlook is favourable. After a spike, housing bond yields have recently been close to the rate at the end of October. Interest rates in general have inched downwards and in most cases households have benefited from the stronger króna, although there are exceptions. Higher equity prices also imply a positive wealth effect. Conditions for financial companies are broadly unchanged since the end of October, both domestically and internationally. However, higher prices of shares in financial companies present them with opportunities to expand their balance sheets with equity offerings.

II Updated macroeconomic and inflation forecast

The Central Bank publishes an update to its most recent macroeconomic and inflation forecast below. The forecast presented here is broadly based on the Bank's current forecast, published in November 2003, with certain assumptions changed to reflect recent developments and the latest available data. In future, the Central Bank will as a rule publish its macroeconomic and inflation forecast twice a year, in the June and December issues of *Monetary Bulletin*. The March and September issues will normally not include a forecast or update. However, the Bank may publish an updated forecast in these issues if this is considered critical due to significant changes in conditions. An update involves altering certain assumptions behind the forecast to reflect interim developments and major changes in outlook, but without performing an in-depth analysis or revising all the assumptions. A detailed evaluation of forecast uncertainty and the risk spectrum is not presented below either; normally it is planned to do so only when a comprehensive forecast is published.[3]

The most important change in the assumptions is that the current forecast takes the Norðurál smelter expansion into account. As in previous forecasts, an unchanged policy interest rate and exchange rate are assumed over the forecast horizon; the króna has appreciated since November. In the update, output growth is revised upwards from the November forecast. A higher rate of domestic demand growth and a wider current account deficit are also projected. However, the labour market is weaker than was expected in November, but as in the November forecast will gradually tighten over the forecast horizon. Productivity growth has also been revised upwards.

The stronger króna and the slower growth in unit labour cost caused by greater productivity will ease inflationary pressures in the near term. Accordingly, the rate of inflation until the middle of 2005 has been revised downwards from the November forecast. Two years ahead, virtually the same rate of inflation is expected as before.

3. The regular evaluation of forecasting errors, which has hitherto appeared in the first issue of *Monetary Bulletin* each year, will be published with the next comprehensive forecast in June.

Outlook for demand and output

Go-ahead for the Norðurál expansion expected

The most important change in the assumptions underlying the present macroeconomic and inflation forecast is that the Norðurál smelter expansion is once again expected to be launched in the fairly near future. In November it was decided not to include this project due to lack of information about its scope and timing, after a major change of plan which no longer envisaged electricity being supplied to it by the national power company, Landsvirkjun.

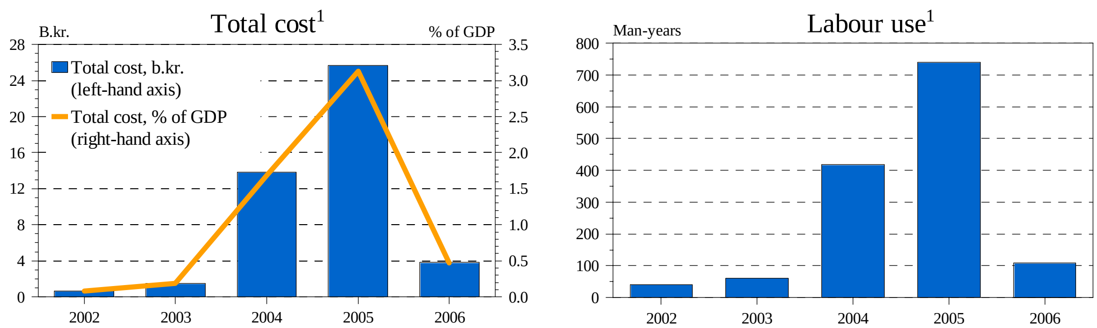
These plans have now been announced and construction work on the power facilities for supplying the expanded smelter have either been launched or are about to be. The scale of this investment is estimated at just under 17 b.kr. The bulk of construction activity will take place this year and next year, and work is scheduled for completion in 2006. Work on switchgear to supply the extra power to Norðurál will be launched this year and completed in 2006 as well, with an estimated investment cost of 6½ b.kr. Construction of the smelter expansion itself is expected to begin later this year and activity will peak next year. Total investment cost is estimated at 22 b.kr. Thus the total investment cost of the smelter expansion and power facilities for it will be in the region of 45-46 b.kr. Total labour requirement over the combined construction period for all these investments will amount to almost 1,400 man-years.

The króna has appreciated since November

With respect to other assumptions, the króna has appreciated somewhat since the previous forecast. An exchange rate index of 126 over the forecast horizon was assumed in November but 120 in the current forecast. This is equivalent to an appreciation of 2.8% between the annual averages for 2003 and 2004, instead of the depreciation assumed in the November forecast, implying an exchange rate which over the forecast horizon is 5% higher than assumed then. Other changed assumptions include firmer growth in export of marine products, offset by lower prices. Projections of aluminium and oil prices

Chart 11

Norðurál smelter expansion: total cost and labour use 2002-2006



1. Combined cost of smelter and power facilities. *Source:* Central Bank of Iceland.

are based on recent futures prices. As usual, it is assumed that the Central Bank's policy interest rate will remain unchanged.

More robust demand but a downturn in the trade balance ...

In light of the latest national accounts data and recent indicators, the projection of growth in domestic demand last year has been revised upwards. Output growth therefore exceeded the November forecast, as did the current account deficit, driven by a larger-than-expected increase in imports.

More robust economic growth is now expected over the coming years than was forecast in November. As a result of the inclusion of the Norðurál smelter expansion, business investment will be considerably greater. Housing investment is also expected to expand further.

The impact of the Norðurál project is also reflected in higher growth rates for private consumption and, even more markedly, imports. Because the increase in domestic demand is channelled into imports, causing the current account deficit to widen, the impact on output growth is not as

Table 2 Main assumptions of the updated Central Bank macroeconomic and inflation forecast

	Current forecast[1]			*Change from previous forecast*[1]		
Policy rate and exchange rate[2]	*2003*	*2004*	*2005*	*2003*	*2004*	*2005*
Central Bank policy interest rate %	5.3	5.3	5.3	-	-	-
Foreign exchange index[3]	123.5	120,0	120,0	-0.2	-4.8	-4.8
External conditions (% change from a year before, except for interest rates)						
Marine production for export	-½	7	2	1½	½	-
Prices of marine products[4]	-5½	-3½	2	-2½	-3½	-
Aluminium prices[4]	-6½	10¾	-3	-11½	6¾	-3
General import prices[4]	2¼	-½	1¾	-	-	-
Fuel prices[4]	2¾	-5	-11	-12½	-	-10
Prices of exported goods and services[4]	-7¼	-2	1¼	-2½	-4¼	-½
Terms of trade for goods and services	-3½	¼	¼	-2	½	-½
Foreign short-term interest rates (%)	2	2½	3½	-	-	-

1. '-' indicates no change. 2. Annual averages, assuming unchanged interest rates and exchange rate from the day of forecast. 3. Percentage-point change in index from previous forecast. 4. Measured in foreign currency.

pronounced as would otherwise be the case. The widening of the current account deficit stems partly from increasing imports of investment goods for hydropower projects. Investment plans that have been announced for the Fjarðaál (Alcoa) smelter and Norðurál expansion indicate that almost one-quarter of the current account deficit in 2003 can be directly attributed to imports for aluminium/hydropower projects. This share will increase to one-third this year and up to one-half in 2005. It should be pointed out that these figures do not take into account any indirect effects that these projects will have on domestic demand and the exchange rate, and thereby on other imports. Aluminium and hydropower investments can therefore be expected to account for an even larger share of the current account deficit over the period than their direct impact would suggest.

More robust domestic demand is also reflected in an upward revision of the output gap. According to the updated forecast, the output gap will close in 2004, instead of remaining slightly negative throughout the year. A growing positive output gap is then expected over the forecast horizon. Estimated output gap for 2003 is unchanged from the last forecast, but the figure for 2002 has been revised downwards.

... while the labour market may have been weaker last year

Even though the domestic goods market was not as weak in 2003 as expected in November, there may have been more slack in the labour market. While unemployment measured 3.4%, which is in line with the forecast in November, there are strong indications

Table 3 Updated Central Bank macroeconomic forecast

	Billion krónur at current prices			*Volume change on previous year (%)*[1]			*Change since previous forecast (percentage points)*[1]		
GDP and its main components	*2003*	*2004*	*2005*	*2003*	*2004*	*2005*	*2003*	*2004*	*2005*
Private consumption	453.1	483.9	525.8	6	5	6	½	¾	1
Public consumption	213.9	224.1	238.7	3	¾	2	-½	-¼	-
Gross fixed capital formation	172.0	198.3	224.6	12½	13	9	5¾	5	½
Industries	96.8	125.3	148.2	18½	26	13½	6¼	11	-1
Excl. power-intensive projects, ships and aircraft	66.3	69.8	74.5	-2¾	2½	2½	-1	¼	-
Residential housing	41.5	43.9	47.3	6	4½	4	3	1	½
Public investment	33.7	29.1	29.2	10½	-16	-3½	7	-7½	4½
National expenditure	839.0	906.3	989.2	6¾	5¾	5¾	1½	1½	¾
Exports of goods and services	284.5	289.7	306.9	¼	4	4½	¼	-	-¼
Imports of goods and services	311.6	333.6	363.9	10½	9½	8	2	2	1
Gross domestic product	811.9	862.4	932.1	2¾	3½	4½	¾	½	¼
				% of GDP			*Change since previous forecast (percentage points)*[1]		
Current account balance	.	.	.	-5½	-7½	-8¼	-2	-2¼	-2¼
Gross national saving	.	.	.	15½	15½	16	-1	-	½
Output gap	.	.	.	-½	¼	1½	-	½	¼
Main labour market aggregates				*%*			*Change since previous forecast (percentage points)*[1]		
Private sector wages, % change between annual averages				5½	5	5½	½	¾	-
Labour productivity, % change between annual averages				3¾	2	1½	1¾	½	-¼
Unemployment, % of labour force				3½	3	2¼	-	¼	-

1. '-' indicates no change.

Box 2 Financial market analysts' assessments of the economic outlook

The accompanying table shows the forecasts of financial market analysts in the latter half of February. There is a slight difference in their assumptions, since four of the five analysts surveyed included the Norðurál aluminium smelter expansion in their forecasts, but one did not.

Presented first is the analysts' evaluation of the inflation outlook for this year and 2005. The forecast for inflation over 2004 is lower than in the last survey (made in October and published in *Monetary Bulletin* in November 2003) and is virtually identical to the Central Bank's inflation forecast, which is unchanged since then at 2.1%. Analysts are unanimous that the rate of inflation will accelerate next year, and at 2.9% their forecast is again almost the same as the Bank's 2.8%. They forecast inflation above the inflation target in 2005. The Bank expects rather lower average year-on-year inflation in 2004, at 1.8% compared with 2.3%. There is little divergence between the forecasts for 2005, when an increase is expected.

As usual, analysts were also asked about the outlook for other key economic aggregates. They forecast marginally higher growth for 2004 than the Bank, which has in fact made an upward revision with the inclusion of the Norðurál smelter expansion, an assumption also made by most forecasters. The Bank forecasts output growth of 3½% this year, but financial analysts 3.8%. Forecasts for 2005 are very close, with the Bank projecting GDP growth of 4½% and the financial analysts 4.6%.

On average, the respondents expect the exchange rate of the króna to remain almost unchanged twelve months ahead, forecasting an index value of 122. There is less consensus on exchange rate developments than in the October forecast. Two years ahead, they broadly expect the króna to weaken, but forecast index values ranging from a high of 133 to a low of 119.

As in several past surveys, the respondents expect the Central Bank to raise its policy interest rate soon. They forecast a policy rate of 6.4% around the same time next year and 7% two years ahead.

All the analysts expect some rise in equity prices over the next two years, but their expectations vary widely. Views on the outlook for housing prices also differ, but all forecast continuing price increases, both one and two years ahead.

Overview of forecasts by financial market analysts[1]

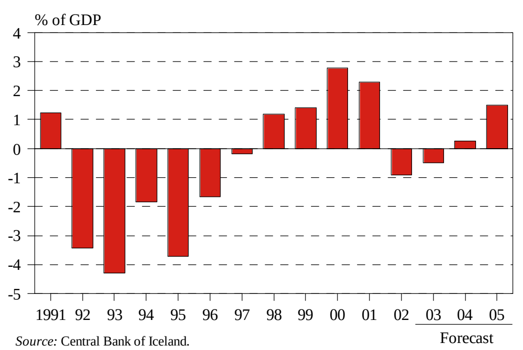
	2004			*2005*		
	Average	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*
Inflation (within year)	2.2	2.0	2.5	2.9	2.5	3.3
Inflation (year-on-year)	2.3	2.0	2.8	2.7	2.4	3.0
GDP growth	3.8	2.0	4.3	4.6	4.0	5.2
	One year ahead			*Two years ahead*		
The effective exchange rate index of foreign currencies vis-à-vis króna (Dec. 31, 1991=100)	122	119	126	126	119	133
Central Bank policy interest rate	6.1	5.8	6.5	7.0	6.3	8.3
Nominal long-term interest rate[2]	7.4	6.5	8.0	7.7	6.5	8.5
Real long-term interest rate[3]	3.8	3.5	4.4	4.0	3.6	4.4
ICEX-15 share price index (12-month change)	8.4	5.0	10.0	9.9	3.0	24.3
Housing prices (12-month change)	4.1	2.5	5.0	7.2	2.5	10.3

1. The table shows percentage changes, except for interest rates (percentages) and the exchange rate index for foreign currencies (index points). Participants in the survey were the research departments of Economic Consulting and Forecasting, Íslandsbanki, KB banki, Landsbanki and SPRON (Reykjavík and Environs Savings Bank). 2. Based on yield in market makers' bids on non-indexed T-notes (RIKB 07 0209). 3. Based on yield in market makers' bids on indexed housing authority bonds (IBN 38 0101). *Source:* Central Bank of Iceland.

that demand for labour was weaker than this would imply, as reflected in lower labour participation and shorter working hours (see the section on the labour market above). Overall labour demand therefore appears to have contracted. Given output growth in 2003 at 2¾%, productivity would seem to have surged. Accordingly, last year's growth in labour productivity has now been revised upwards to 3¾%, from 2% in the previous forecast. Offsetting this, wage costs rose by marginally more than expected. However, this does not alter the fact that the unit cost of labour went up by only 1¾% in 2003, instead of 3% in the previous forecast.

Chart 12

The output gap 1991-2005



Source: Central Bank of Iceland.

As in the November forecast, this excess capacity is expected to wither away gradually and the output gap to become increasingly positive towards the end of the forecast period. The forecast increase in unit labour cost over the next two years has been revised slightly upwards. Next year it will be near the upper limit of compatibility with the Bank's inflation target, partly due to wage drift, while unemployment will probably be roughly compatible with a stable rate of inflation. Recent four-year wage settlements provide for less increase in wage costs in 2006 and 2007 than during the first two years, but this is beyond the current forecast horizon.

Inflation outlook

Robust productivity growth and stronger króna dampen inflation in the short run ...

Last year's sharp increase in productivity and modest unemployment kept the lid on inflationary pressures stemming from the domestic labour market. Combined with the stronger króna, low global inflation and the negative output gap, this will leave the rate of inflation low in the near term and lower than forecast in November. Inflation one year ahead will be only 1.8% instead of the 2.4% projected in the November forecast (and 2.1% relative to the same quarter of the previous year),

Table 4 Updated Central Bank inflation forecast

%	*Percentage change on previous quarter*	*Annualised quarterly change*	*Change on same quarter of previous year*
2002:1	1.0	4.2	8.7
2002:2	0.4	1.6	5.5
2002:3	0.2	0.7	3.3
2002:4	0.6	2.3	2.2
2003:1	0.7	2.9	1.9
2003:2	0.5	2.0	2.0
2003:3	0.3	1.1	2.1
2003:4	1.0	4.1	2.5
2004:1	0.3	1.0	2.0
2004:2	0.3	1.0	1.8
2004:3	0.2	0.9	1.7
2004:4	1.0	4.1	1.8
2005:1	0.6	2.3	2.1
2005:2	0.6	2.4	2.4
2005:3	0.6	2.5	2.8
2005:4	1.0	4.2	2.9
2006:1	0.7	2.9	3.0

Figures indicate changes between quarterly averages of the consumer price index. Shaded area indicates forecast.

%	*Change, year-on-year*	*Change within year*
2001	6.7	9.4
2002	4.8	1.4
2003	2.1	2.4
2004	1.8	2.1
2005	2.6	2.8

Shaded area indicates forecast.

despite a rather tighter domestic goods market than previously forecast.

The above scenario is close to the forecast from August 2003, which unlike the November forecast also incorporated the Norðurál expansion. As pointed out in both previous forecasts, the Norðurál expansion will bolster the króna, dampening short-term inflation. In the longer run, however, the investments will boost domestic demand and fuel inflationary pressures towards the end of the forecast period. Hence in August inflation was forecast to slow down for the first part of the period, then gradually pick up and outstrip the target at the end of it. The November forecast, on the other hand, did not project any short-term disinflation, since it did not allow for any strengthening of the króna as a result of the Norðurál project.

... but inflation will gradually creep upwards

Since the updated forecast again provides for the Norðurál expansion, it is broadly in line with the one published in *Monetary Bulletin* 2003/3. After declining for much of this year, inflation will gradually gain momentum and move above the target around the middle of next year. Two years ahead inflation is forecast at almost 3%, in line with the two previous forecasts. As before, a further rise is expected on a longer horizon, given an unchanged monetary policy.

More excess capacity and less inflation in the long term if the Norðurál plans fall through

Detailed analysis of all the risk spectrum is not provided with this update. As mentioned earlier, this will only be performed when comprehensive forecasts are to be published. Only some major uncertainties are outlined here.

At the time of writing, a final decision on the Norðurál expansion is still pending. However, the Central Bank's judgement is that the project is highly likely to go ahead. If the outcome is otherwise, the forecast assumptions will obviously change in important respects, as discussed when the last two forecasts were presented.

If the Norðurál expansion does not materialise but the exchange rate remains unchanged – as assumed – output growth this year and in 2005 is likely to be half a percentage point lower than projected here. Unemployment would be half a percentage point higher and the output gap would not turn positive until next year. Inflationary pressures would be more subdued and – assuming an unchanged exchange rate – the inflation rate would be half a percentage point lower this year and up to 1 percentage point lower in 2005.

As pointed out before, however, if the Norðurál project does not materialise the króna would probably weaken, fuelling inflation temporarily.

A weakening of the króna would spur demand and inflation

It can be argued that much of the strengthening of the króna to accommodate the Norðurál and Alcoa projects has already been delivered through market expectations. Also, at present the króna is probably somewhat above its long-term equilibrium exchange rate. Thus there is a case for expecting the króna to slip back over time, although some further strengthening cannot be ruled out in the short term.

There is some upside risk in the forecast of underlying inflationary pressures further along the horizon, since it assumes an unchanged exchange rate despite a widening current account deficit and the prospect of a reversal in currency flows when the aluminium and hydropower investments come to an end. A rough idea of how the forecast might change if the króna weakens significantly in the near term is given by an alternative scenario in which the króna weakens by 7½% until the summer and the exchange rate index subsequently stays unchanged at 129, which is probably closer to its long-term equilibrium rate than the present rate. Under this scenario, export growth would pick up and import growth slow down. As a result, output growth would run a quarter of a percentage point higher than otherwise over the next two years. Unemployment would be ¼-½ of a percentage point lower. Inflation, on the other hand, would be considerably greater, since the direct impact of imported consumer durables on the domestic price level would compound the above demand effect. This could push inflation as much as 2 percentage points higher this year and 1 percentage point higher in 2005. This would leave the inflation rate around 1 percentage point above the target over the forecast horizon.

Greater share of foreign labour would cause some easing of inflationary pressures

The forecast assumes that up to 40% of labour employed on the aluminium and hydropower projects will be imported, based on information from the project developers. A half-share of imported labour would dampen domestic demand and inflation slightly, but not have much overall effect over the forecast horizon. Even if the share were to rise to 70% it would have relatively little impact on output growth this year and in 2005, while unemployment would be a quarter of a percentage point higher and inflation ¼-½ of a percentage point lower over the period.

III Monetary policy

The Central Bank policy interest rate has still not been raised

The Central Bank's policy interest rate has remained unchanged for more than a year, after being lowered to 5.3% on February 18, 2003. In the November 2003 issue of *Monetary Bulletin* it was stated that higher interest rates were on the horizon as the output gap would swing from negative to positive in 2005, regardless of whether the Norðurál expansion went ahead or not. Furthermore, inflation was forecast to move above the target two years ahead if monetary policy remained unchanged. It was also stated that "interest rates will probably be raised soon," which could be understood as implying a raise before the subsequent issue of *Monetary Bulletin* was published. However, interest rates have not been raised yet.

In this context it should be borne in mind that the Bank decided not to raise interest rates straightaway in November notwithstanding above-target inflation two years ahead. The degree of slack in the economy was uncertain at that time, inflation looked set to remain below the target for the whole of 2004 and the aluminium and hydropower projects appeared to have less economic impact than had been expected, in part because of a much higher share of foreign labour than previously assumed. As always, moreover, the assertion that interest rates would probably be raised soon was conditional, i.e. hinging upon unfolding developments including the go-ahead for the Norðurál expansion, fiscal policy and housing loan policy.

The most important factors affecting the outlook since the November forecast are recent inflation and exchange rate developments as well as indications of slack in the economy last year. Admittedly, inflation in Q4/2003 exceeded the November forecast. It slowed down again in the first months of this year, however, and in the beginning of March inflation had slowed to 1.8%, which is somewhat below the target of 2½%. Towards the end of 2003 the króna began to appreciate and is 5% stronger in the updated forecast presented here than in November. Firmer indications have also emerged of a substantial increase in productivity last year and more excess capacity in the labour market than originally expected.

A final decision on the Norðurál expansion has still not been announced at the time of writing. However, it is highly likely that it will go ahead. Hence the project has been incorporated into the updated macroeconomic and inflation forecast. The budget was passed in parliament with a larger surplus than the draft budget had entailed, implying a tightening of the fiscal stance. A decision on arrangements for higher housing loans is still pending, but will conceivably be announced in tandem with measures to dampen their expansionary effect. Taking recent developments and other factors into account, the Bank does not consider that the time was ripe for raising the policy interest rate during the past months. Nonetheless, the original statement that, given the current outlook, higher interest rates are on the horizon, stands unchanged.

Central bank interest rates in Iceland and other inflation-targeting countries

The Central Bank's current policy interest rate is probably close to a neutral stance, i.e. it neither stimulates nor dampens demand and inflation. This assessment is based on an estimate of the equilibrium real interest rate of 2½-3%. The real rate is currently in that region, whether defined in terms of the inflation target or the breakeven inflation rate on three-year T-notes. Relative to past inflation and the breakeven inflation rate on two-year T-notes, the policy interest rate, however, is above 3% in real terms.

It is interesting to note that Iceland's policy rate is currently virtually the same as in Australia, New

Table 5 Central bank policy interest rates and inflation in selected inflation-targeting countries[1]

Countries	Inflation (%)[2]	Period	Inflation target (%)[3]	Central bank policy rate (%)	Last policy rate change (%)	Date of last change	Real policy rate (%) based on past inflation	Real policy rate (%) based on inflation target
Australia	2.4	Q4/2003	2-3	5.25	0.25	3 Dec. 2003	2.8	2.7
Canada	1.2	Jan. 2004	2 (±1%)	2.25	-0.25	2 March 2004	1.0	0.2
Iceland	1.8	March 2004	2½ (±1½%)	5.30	-0.50	18 Feb. 2003	3.4	2.7
New Zealand	1.6	Q4/2003	1-3	5.25	0.25	29 Jan. 2004	3.6	3.7
Norway[4]	-1.8	Jan. 2004	2½ (±1)	2.00	-0.25	29 Jan. 2004	3.9	-0.5
Poland	1.7	Jan. 2004	2½ (±1)	5.25	-0.25	25 June 2003	3.5	2.7
South Africa	4.2	Jan. 2004	3-6	8.00	-0.50	12 Dec. 2003	3.6	3.3
Sweden	0.8	Jan. 2004	2 (±1)	2.50	-0.25	6 Feb. 2004	1.7	0.5
UK	1.4	Jan. 2004	2.0	4.00	0.25	5 Feb. 2004	2.6	2.0

1. Inflation target for 2004 or long-term target where this is already in effect. 2. Inflation is calculated on the basis of the twelve-month change in the index on which the respective country's monetary policy is based, or in the CPI, as appropriate, using latest available data. 3. Australia and New Zealand target an annual inflation rate of 2-3% and an average of 1-3% during the economic cycle. 4. High disinflation was measured in Norway in January 2004, partly due to seasonal factors, while a large cyclical downturn was shown in the 12-month change in January with the cancellation of the base effect of electricity taxes which had been imposed just over a year before. In January, inflation less taxes and energy prices was 0.1% in Norway. *Sources:* EcoWin, central bank websites.

Zealand and Poland. These countries have basically the same inflation target as Iceland (although the median of the inflation target in New Zealand is half a percentage point lower than in the other countries), inflation is at or marginally below the target, and the estimated real equilibrium interest rate is not far from Iceland's but higher than in the larger industrial countries. There are examples of both higher and lower central bank rates being in effect in other inflation-targeting countries, cf. Table 5. In countries where they are lower, the rate of inflation and the inflation target are generally lower too, the economic outlook is not as bright as in Iceland and/or the equilibrium interest rate in real terms is lower. Thus Norway's key rate (sight deposit rate) is only 2%, but inflation there is well within the target and consumer prices have in fact been falling over the past twelve months, and are basically unchanged excluding taxes and energy prices. The situation in Sweden is broadly the same, with slightly higher interest rates and inflation compared with Norway but an inflation rate nonetheless some way below the target.

Inflation forecast still indicates that higher interest rates are on the horizon

The updated macroeconomic and inflation forecast presented above does not entail any fundamental change in the outlook described in the November *Monetary Bulletin.* The estimate for last year's output growth has admittedly been revised upwards, in particular due to strong growth of national expenditure. Expenditure growth was largely channelled into a surge in imports, causing a current account deficit far in excess of the original forecast, at 5½% of GDP. This relieved pressures on domestic factors of production, leading to correspondingly lower inflation than otherwise, a trend reinforced by a leap in productivity and a continuing high share of foreign labour in power construction projects. Together with a stronger króna, these initial assumptions lead to a somewhat lower rate of inflation over almost the entire horizon than forecast in November, notwithstanding higher output growth. In Q1/2006, however, inflation is forecast at half a percentage point above the target, assuming that both interest rates and the exchange rate remain unchanged. All things being equal, this would warrant a rise in interest rates at some time over the next few months. As always, however, the timing and scope of an interest rate hike will be determined by unfolding developments and any government measures that may exert an influence.

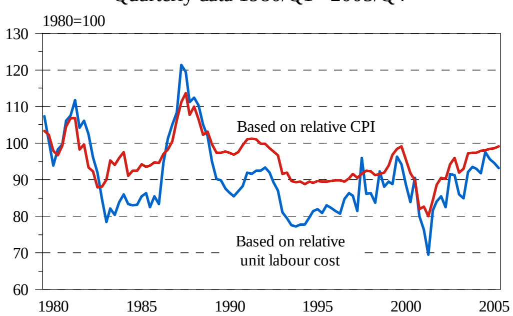
The exchange rate is a particular risk factor in assessments of the current position

The stronger króna plays a major part in terms of moderating forecast inflation in the near term. Had the exchange rate remained more or less unchanged from the reference used in the November forecast, inflation would rise above the target as early as the latter part of this year, and be well above 3% at the end of the year, other things being equal. The appreciation since the end of October 2003 apparently has little or no connection with actual and expected investments in aluminium and hydropower projects, since no new developments have been reported on that front over the intervening period, except perhaps that they have made slightly less contribution to underlying inflationary pressures than was expected. The most immediate explanation would appear to lie in foreign capital inflows in connection with leveraged buyouts and stepped-up borrowing by domestic companies. Other things being equal, this appreciation could conceivably be levelled out in the next few months. In that case, inflation will exceed the current forecast.

Chart 13

Real effective exchange rate of the króna

Quarterly data 1980/Q1 - 2005/Q4[1]



1. Forecast for 2004/Q1 - 2005/Q4. *Source:* Central Bank of Iceland.

Based on the figure used in the forecast, the real exchange rate of the króna this year will be 3.6% and 6.3% higher than the 20-year historical average, based on relative prices or unit labour cost respectively. This is presumably above the long-term equilibrium exchange rate – indeed, the króna is expected to remain above it until the peak of the aluminium investments. Thus there is a considerable likelihood that the króna will weaken afterwards, unless it is bolstered by other positive output shocks. A scenario is presented in the previous section positing a 7½% lower exchange rate than in the base model of the forecast. While this would stimulate output growth and ease unemployment, inflation would jump in the short run and measure 1 percentage point above the target over the forecast horizon. It is unlikely that a depreciation on such a scale will take place in the immediate future, but the strengthening that has taken place in the past few weeks could conceivably be reversed. Monetary policy formulation must therefore take into account that the exchange rate assumed in the forecast may paint an overoptimistic picture of inflation prospects. Thus interest rates may need to be somewhat higher than the headline inflation forecast would suggest.

Box 3 The economic impact of the east Iceland aluminium and hydropower projects

Although construction of Kárahnjúkar hydropower station is still at an early stage and work on the Fjarðaál (Alcoa) smelter has not commenced, it is worth examining whether developments so far have diverged from expectations in important respects. To begin with, the following is a recapitulation of the Central Bank's evaluation of these projects before they commenced.[1]

The main finding was that, despite the fact that the construction projects will be some of the largest in Icelandic history, it would be possible to maintain economic stability and keep inflation close to the Central Bank's target through the interplay of autonomous economic adjustment and monetary and fiscal policy measures. The króna would appreciate and long-term interest rates rise at the start of the investments. However, it was emphasised that autonomous adjust-

1. An in-depth analysis of the macroeconomic impact of the Fjarðaál project was published in *Monetary Bulletin* 2003/1. It should be underlined that only the impact of the Fjarðaál project was discussed in that analysis. It did not evaluate the Norðurál smelter expansion, which has affected subsequent developments. An earlier study was published in *Monetary Bulletin* 2002/2. A speech by the Chief Economist of the Central Bank, published in *Monetary Bulletin* 2003/3, focused on the project's impact on the exchange rate and economic policy responses. See Már Gudmundsson, "The strengthening of the exchange rate and economic policy challenges", *Monetary Bulletin*, 2003/3.

ments, being based at least in part on expectations of economic policy measures, cannot be a substitute for such a response.

The Bank's assessment was based on information gathered from the project developers on factors including construction cost, labour use and the shares of domestic and foreign labour. All these assumptions have since changed.

The original plans assumed that the bulk of construction activity would take a shorter time than currently envisaged. Two-thirds of construction work was expected to take place in 2005 and 2006, peaking in the latter year. According to the most up-to-date information, part of the activity has been rescheduled from 2005 and 2006 to 2007, and will be more intense in 2007 than in 2005 (see Box 3 in *Monetary Bulletin*, 2003/4). Because the investments are spread over a longer period, it will be easier for the economy to absorb them without driving up domestic demand.

In *Monetary Bulletin* 2003/1 it was assumed that just over ¾ of the labour force would be domestic, based solely on information from the developers. The outcome has been quite different. Now it is estimated that, on average, less than half the labour force will be domestic for the duration of the investments. The greater the share of imported labour, the less pressure will be generated in the domestic labour market.

Assumptions about the exchange rate and Central Bank policy interest rate have also changed. Originally an exchange rate index value of 124 was assumed, while in the current forecast it is 120. The króna would probably be considerably weaker now had plans for the projects not materialised. A stronger exchange rate dampens inflationary pressures and makes the investments easier to accommodate. The policy rate assumed in *Monetary Bulletin* 2003/1 was 5.8% but is now 5.3%, reflecting some slack in the economy. A negative output gap facilitates absorption of the investments into the economy, and in fact is also a consequence of internal economic adjustment through the exchange rate and interest rate mechanisms.

Without the investments that have now been launched, the Central Bank policy rate would probably be lower than at present. Applying a simple Taylor rule to the position of the economy this year and in 2003, the policy rate ought to be 4½-5%. As might be expected, the investments have led to less reduction in the policy rate than would otherwise have been the case. Calculations in the earlier assessment suggested that, with exchange rate adjustment, interest rates needed to rise by 2%, of which it can be said roughly ½% has already emerged. A tighter fiscal stance would have constrained this increase even further. Indeed, the tighter fiscal policy in the budget for this year is one result of the projects.

The study in *Monetary Bulletin* 2003/1 presented several alternatives to a baseline scenario that did not include the projects. Without economic policy responses, exchange rate adjustment or other autonomous adjustments, the rate of inflation would peak 4 percentage points higher than otherwise. An exchange rate adjustment and a 2 percentage point higher policy rate would allow inflation to be kept less than 1 percentage point higher, compared with the baseline scenario. Fiscal measures would make a further contribution and not exert so much upward pressure on the króna.

Given the changes in assumptions and the macroeconomic forecast presented above, the analysis and assessment that the Central Bank published in February 2003 does not appear to be fundamentally flawed. Output growth will head above its equilibrium level and the output gap will turn from negative to positive. Inflation will rise above the target at the peak of the investments, unless the policy interest rate is raised. The appreciation of the króna has eased inflationary pressures and will temper the necessary rise in interest rates. A tighter fiscal stance will hold the króna weaker than otherwise and reduce the need for higher interest rates as well.

Finally, it should be underlined that final judgement on the ultimate impact of the aluminium and hydropower investments would be premature. They are still in their infancy.