February 18, 2005

Report to the Government on inflation beyond the tolerance limit

Summary

The rate of inflation now measures 4.5%, which is outside the tolerance limits stipulated in the joint declaration by the Government of Iceland and Central Bank of Iceland in March 2001, on the inflation target and monetary policy framework. The following report traces the reasons for inflation to much faster-than-expected growth in domestic demand. In particular this is the result of aluminium-related investments on a larger scale than previously assumed, especially this year, and increased credit supply. The Central Bank has already taken substantial measures to respond to these new conditions. The inflation outlook over the next two years has improved somewhat after the Bank raised its policy interest rate in December, but not sufficiently to ensure that the inflation target is attained. Accordingly, the Board of Governors of the Central Bank considers that the monetary stance needs to be tightened still further. A rise of 0.5 percentage points in the Bank's policy interest rate from February 21 is a step in that direction. With a sufficiently tight stance, the Bank feels that the target will be attainable within two years. Inflation will probably have moved back within the tolerance limits this summer and, with a sufficiently tight stance, close to the target next year. The Central Bank will not flinch from attaining that target.

1. Introduction

Act No. 36/2001 on the Central Bank of Iceland stipulates price stability as the main objective of monetary policy. The declaration by the Government of Iceland and Central Bank on March 27, 2001 set an inflation target for the Bank, i.e. to aim for an average rate of inflation, measured as the twelve-month increase in the CPI, of as close to 2½% as possible. The declaration grants the Central Bank full independence to apply its instruments in order to attain the inflation target. Furthermore, the declaration includes provisions for Central Bank accountability towards the government and the public. One way in which this is done is to define tolerance limits, which are currently 1½ percentage point on either side of the target. If inflation moves beyond the tolerance limit, the Bank is obliged to submit a report to the

Government explaining the reasons for the deviation, how the Bank intends to react and how long it will take to reach the inflation target again in the Bank's assessment. The report shall be made public. However, the tolerance limits do not imply any other formal obligation for the Central Bank to respond. It should be reiterated that the objective of monetary policy is to maintain inflation as close to the 2½% target as possible, and not merely within the tolerance limits.

This February, the twelve-month increase in the CPI measured 4.5%. Inflation has therefore moved beyond the tolerance limit, which is the occasion for the present report. Section two of this report briefly discusses the experience of inflation targeting so far. The third section describes recent inflation developments and the economic conditions impacting inflation. Section four discusses the outlook for the next two years, focusing on the changes that have occurred since the Central Bank published its last inflation forecast in the beginning of December 2004. The fifth section deals with monetary policy and the measures that the Central Bank considers necessary in order to bring inflation back to target.

2. Experience of inflation targeting so far

Positive experience of inflation targeting

Almost four years have passed since the fixed exchange rate regime was abandoned in favour of inflation targeting. Broadly speaking the experience has been positive, although it is still too early to pass final judgement. At first the conditions were difficult. Heavy macroeconomic imbalances had developed over the period 1998 to 2000 which monetary policy was ill-equipped to tackle, given that the Bank was obliged to follow the fixed exchange rate policy as it was defined at that time and did not enjoy the independence that it is now ensured by law. Despite the temporarily wider tolerance limit set at 6% in 2001, inflation could not be contained within it that year, since the króna went into a slide when the capital inflows that had funded the current account deficit over the preceding years dried up. Repeated interventions in the foreign exchange market failed to halt the depreciation. In November 2001 the króna had weakened by almost 30% from its peak in spring 2000.

Although inflation moved beyond the tolerance limit in 2001, the inflation target was attained earlier than originally aimed

The reasons that inflation moved beyond the tolerance limit in 2001 are described in more detail in a report to the government which was published on June 20, 2001. Inflation peaked at the beginning of 2002 at 9.4%. In spite of this substantial deviation in the first year after inflation targeting was adopted, the 2½% target was reached in

November 2002, a year earlier than expected. Inflation had moved within the tolerance limit in July of that year. The key to this achievement – despite the rough beginning – was a tight monetary stance, which caused a swift appreciation of the króna once domestic demand and the current account deficit, which had undermined exchange rate stability, had sufficiently diminished.

The Central Bank matched the decelerating inflation rate by easing its monetary stance, and its policy interest rate in real terms can be estimated to have moved down to or even below the natural real rate of interest at the beginning of 2003. Also, the minimum reserve requirement of credit undertakings was reduced in two phases in March and December 2003. The lower minimum reserve requirement was a systemic reform that had been promised some years before and aimed at creating a level playing field for domestic and foreign financial undertakings: it was not intended as a monetary policy measure. Central banks have in general ceased to use reserve requirements as a monetary instrument. While this move unquestionably provide an impulse, this was not regarded as a cause of concern in light of the apparent excess production capacity in the economy when it was decided. It should be pointed out that it did not transpire until well into 2004 that GDP growth in 2003 was much more robust than available economic data had indicated. In autumn 2002 the Bank had begun purchasing foreign currency in order to build up its reserves, which had been virtually exhausted in 2001 apart from inflows from short-term foreign borrowing that was undertaken to maintain an acceptable level of external liquidity. Efforts were made to minimise the impact of foreign currency purchases on the exchange rate, and the drop in Central Bank repos with credit undertakings sterilised their liquidity effect to a substantial extent (see the discussion in *Monetary Bulletin* 2004/4, Box 1 on pp. 48-49).

3. The inflation problem

The monetary policy framework will be put to the test over the next years

Over the next few years the new monetary framework will be very much put to the test. Investments in power stations and aluminium smelters, which together are equivalent to almost one-third of annual GDP, entail a greater macroeconomic shock than any other country with a comparable monetary framework has had to tackle. The Central Bank assessed the impact of these investments in *Monetary Bulletin* 2003/1. Its broad finding was that inflation could be kept in check with a tight fiscal and monetary policy mix. Although some changes have been made to investment plans since this assessment was made, it is reasonable to assume that this finding still holds in principle.

Generally speaking, a forward-looking monetary policy such as inflation targeting ought to be more suitable than, for example, a fixed exchange rate regime for responding to the macroeconomic shock caused by large-scale investments. Inflation targeting enables an earlier response to signs of macroeconomic imbalances precisely because monetary policy is free from the constraint of maintaining a stable exchange rate. However, the sizeable uncertainties about the macroeconomic impact of the investments cannot be ignored, since a shock on such a scale has never been witnessed under the present economic framework, i.e. unrestricted capital movements, a floating exchange rate and open labour market. In view of the uncertainties, monetary policy must be expected to diverge occasionally from what, in retrospect, could be regarded as optimum, even if it is based on the best available information at any time.

Structural changes in the credit market amplify the problem

The uncertainties concerning the macroeconomic impact of the aluminium-related investments hinge not least on their interaction with other forces at work in the economy. Last year, for example, structural changes took place in the credit market. Their strong effect compounded the impact that the investment projects are already exerting on domestic demand. Households' access to credit increased substantially when domestic banks began offering mortgage loans with low interest rates, long maturities and unprecedentedly high loan-to-value ratios. The households' response to these changes has been stronger than anyone envisaged. At the end of January the banks had lent roughly 138 b.kr. to almost 12,500 households in the form of mortgage loans. While the bulk of the new loans have been used to prepay earlier debt that was on less favourable terms, even if only a fraction of the extra borrowing is allocated to other expenditures it could have a decisive impact. If lending continues at broadly the same pace for a whole year, for example, and if 10% is allocated to private consumption, this would leave private consumption 10% higher than otherwise. Through their massive impulsive to housing demand, the credit market changes have made a sizeable contribution towards pushing inflation beyond the tolerance limit.

Increases in the housing component of the CPI explain roughly half of the twelve-month inflation rate

Hitherto, the effect of increased credit supply on consumer prices has largely been reflected in the housing component of the CPI. At the beginning of February the housing component had risen by 14% over one year, the highest rate of housing inflation since 2000. The main reason is the rise in market prices of housing, which has measured 17% over the past twelve months. Furthermore, the full effect has still not been felt. The surge in housing prices in the Greater Reykjavík Area at the end of last year has not been fully transmitted to the CPI, which is

based on three-month averages. Of the 4.5% twelve-month increase in the CPI, roughly half stems from the rise in the housing component.

Another index component that has outstripped others is public services prices. After a sizeable hike in February the twelve-month rate of increase in prices of public services amounted to 7.2%. Private services prices have also risen in excess of the inflation target, at 3.6%. Since private sector services weight fairly heavily in the CPI, at more than 23%, the increase in this component has made quite a strong contribution to the rise in the index (see Chart 3).

The contribution of petrol and oil price rises to the increase in the CPI has diminished sharply in recent months. Petrol prices had risen by 4.9% year-on-year in February and their effect on the index amounted to under 0.2%. Excluding the impact of higher prices for housing, public services and petrol, inflation measured just under 2%, as shown in Chart 4.

With certain exceptions, the price level has remained relatively stable over the past year. Besides petrol, considerable rises have also been noted in prices of domestic agricultural products, especially meat products. If petrol is excluded, import prices have dropped by just over 1%.

The greatest increases in goods and services prices have been in sectors that do not face foreign competition

Inflation developments in recent months follow a familiar pattern. At the beginning of an upswing, the thrust of increasing demand is primarily observed in rising prices in fields where foreign competition is weakest, since the currency has tendency to appreciate as the economy picks up. The stronger currency staves off price increases in sectors were foreign competition is at hand. This is not the case with the housing market, a sizeable share of private services, agricultural products and public services. Growing external imbalances, on the other hand, weaken the currency and thereby the long-term inflation outlook.

Inflation over the past year was broadly demand-driven

In the short term, inflation can be driven either by demand or changes in costs, or by the interaction of the two. Cost developments which are beyond the influence of domestic monetary policy, namely higher fuel prices in foreign markets, made a considerable contribution to inflation for much of last year. In that respect the inflation then was less of a cause for concern, since their impact was likely to fade out relatively quickly or even be reversed, which has now happened to some extent.

If wages rise significantly faster than productivity, inflation may gain momentum. However, it should not be forgotten that the speed of the

pass-through also depends on demand and the impact of its growth on employment and thereby on wage developments. When wage settlements by the main labour unions were known in March 2004, the Central Bank evaluated wage developments (See *Monetary Bulletin* 2004/1 pp. 1 and 9-10). The Bank found the settlements to be broadly compatible with the inflation target. Wage developments so far do not indicate that this assessment was incorrect. Job creation appears to have been relatively sluggish at the beginning of the upswing and foreign labour has been a larger factor in aluminium-related investments than initially expected. Wage drift therefore seems to have been fairly slight relative to GDP growth. Also, quite sluggish job creation at the time of rapid output growth implies sharp gains in productivity in recent years. Unit labour cost showed little increase year-on-year in 2003 and 2004. While various problems of data interpretation leave a fairly large degree of uncertainty, ad hoc case studies indicate rapid productivity growth in recent years.

Recent exchange rate developments have been favourable for inflation developments. So far this year the year-on-year appreciation of the króna has averaged almost 7%. This is clearly reflected in the slower rise in import prices, especially if petrol is excluded.

From the above it seems obvious that, unlike the episode of overheating in 1998-2001 when unit labour costs increased by an average of 4½% p.a., underlying cost developments are not the explanation for the recent acceleration in the inflation rate. Nonetheless, surging demand, the current account deficit and growing labour market pressures generated by high growth may generate such cost pressures later, which in the absence of further measures could compound the inflation problem.

4. Inflation prospects

The Bank's December forecast showed deteriorating inflation prospects

In the beginning of December the Central Bank published an inflation forecast showing considerably poorer inflation prospects two years ahead than in its June forecast or the revised forecast in September. *Monetary Bulletin* 2004/4 explains the reasons for this development: faster-than-expected growth of domestic demand, stepped-up investment plans for the aluminium industry (in particular in 2005) and greater supply of housing finance to households at lower interest rates than before. The forecast revealed a considerable risk that inflation would move beyond the tolerance limit in the first quarter of this year. Although the outlook was for some slowing of inflation later in the year, the base forecast showed a rate considerably above target over the whole forecast horizon and gaining momentum towards the end,

i.e. assuming an unchanged policy interest rate and exchange rate. The upturn in inflation towards the end of the horizon would be caused by production considerably in excess of potential in 2006, on broadly the same scale as during episodes of overheating in previous decades. Furthermore, there was an upside risk of inflation exceeding the base forecast if no measures were taken. Among the reasons were the risk that the króna would begin to weaken towards the end of the forecast horizon and indications in the forecast that there was a strong risk of higher wage rises than had been assumed following a conceivable review of wage settlements in November 2005.

The higher policy rate and currency appreciation have improved the outlook ...

In response to this inflation scenario, the Central Bank felt compelled to announce an exceptionally large policy rate hike when the inflation forecast was published, by 1 percentage point to 8.25%. At the same time, the Bank implied that a further tightening of the stance could be expected. The policy rate increase and the appreciation of the króna that followed in its wake naturally caused a marked shift in the assumptions underlying the forecast. Monetary policy measures are transmitted with a long lag and therefore have only a minor short-term impact, apart from the effect of the stronger króna on a number of exchange rate-sensitive components of the CPI. Thus it was obvious that the Bank's measures would have relatively little effect on the probability of inflation moving beyond the tolerance limit during the first quarter of 2005. In addition, Central Bank measures have so far not managed to affect mortgage lending rates, which are the main driver of inflation on its present scale. In the short term, Central Bank measures therefore have only limited scope for impacting housing demand and, in turn, the housing component of the CPI. Part of the upward trend in the housing component in recent months is the result of the base effect, because of the very small rise in this component in the same period twelve months before. Monthly rises in the housing component have therefore been a pure addition to the year-on-year rate of increase. Over the period March to June 2004, on the other hand, the housing component rose by almost 1½% each month. If the housing component is to stop contributing to higher inflation, its monthly rate of increase over the corresponding period this year must not exceed this figure. However, judging by the increase in the housing component over the past four months, which has been in the range 1-2½% per month, and the tendency for brisk spring trading in the real estate market, even further rises in the housing component must be considered quite likely. Growing supply of new housing will ultimately cause the wave of price rises to stop or even reverse. Until

now, however, the demand effect appears to have the upper hand and shows no sign of altering in the immediate future.

... but not sufficiently for the inflation target to be attained over the forecast horizon without further tightening of the stance

The stronger króna and higher interest rates will have a considerable impact on inflation developments later this year and next year, and will counteract the effect of higher prices in sectors that do not face foreign competition. Revised economic and inflation prospects based on this new information suggest a somewhat lower rate of inflation over the next two years than was expected in the Bank's last forecast. In particular this is caused by the direct effect of the currency appreciation in the short term and the somewhat narrower positive output gap produced by higher interest rates and the stronger currency in the long term. However, at current exchange rates and interest rates, inflation still seems to be heading above target over the whole forecast horizon, and accelerating towards the end of that period. In the short term the Bank seems to have fairly limited scope for having an effect on the rise in the housing component, which is still not showing any sign of slowing down. Given the above, there is some risk that additional wage increases will be agreed when wage agreements come up for review in November, fuelling inflation even more next year. Bearing this in mind and the conceivable effect of an eventual currency depreciation, it must be concluded that, in the absence of policy action, inflation is likely to remain a considerable way above the target next year.

5. Monetary policy

Should interest rates have been raised earlier?

It is natural to ask whether the high rate of inflation that is now looming could have been prevented by applying even more forward-looking monetary policy measures. If the development of the policy rate is examined using a simple Taylor rule, which research has shown to provide a close approximation to the typical behaviour of successful central banks, it may be concluded that the policy rate could have been raised somewhat earlier and more sharply than was done. However, it cannot be taken for granted to regard this as a benchmark for the quality of monetary policy.[1] It should be remembered that what

[1] There are a number of variants on the Taylor Rule, which in general all assume that central bank policy interest rates are determined by how much inflation diverges from the target and output gap. The calculations in Chart 6 assume that the Central Bank's natural policy interest rate is 5.5%, with an elasticity of 1.5 towards a deviation in inflation from the target and 0.5 towards the output gap. The chart shows quarterly averages and is based on the twelve-month running average of the output gap over the preceding four quarters. Two versions of the rule are shown, one based

appears obvious on the basis of the most recent economic data was not obvious before those data were available. As pointed out above, it was not until well into last year that GDP growth in 2003 transpired to have been much higher than was expected, and even then it was quite uncertain whether this situation was permanent. Immediately after the first-quarter growth figures were published in June, it was clear that the figure for the year was heading much higher than had been expected. The surge in housing prices can be traced to events in the summer and autumn that were unforeseen. The strength of the response to them came as no less a surprise. As soon as this became clear, the Central Bank responded firmly by raising its policy rate by a total of 1.5 percentage points in November and December. An additional factor is the changes in plans for aluminium industry projects. These investments are now being made both on a larger scale and earlier than previously had been planned, and will peak this year instead of 2006. A larger share of the investments was therefore unexpectedly brought too close in time for monetary policy to have a strong enough mitigating effect on domestic demand.

In retrospect, it may be argued that the policy interest rate hikes could have been launched earlier and more quickly than they actually were. However, this was not clear when the monetary policy decisions were made at that time. Also, the divergence is not a large one and the Central Bank has already taken important steps towards correcting it.

Grounds for an even tighter monetary stance

Given the current inflation prospects, there appear to be ample grounds for an even tighter monetary stance. Inflation has climbed since the last forecast was produced, especially underlying inflation. Although until now increasing inflation can largely be attributed to the housing component of the CPI, pressure on private services prices has also been building up lately. Furthermore, imported inflation caused by fuel price rises in foreign markets now contributes less to total inflation, as pointed out earlier. It is generally considered reasonable to exclude the part of inflation that is of foreign origin, beyond the influence of monetary policy and probably relatively short-term in nature. Such factors are less in evidence now.

There has been some discussion on the desirability of basing the inflation target on the CPI excluding housing prices – measured by such an index, inflation was still close to the target at the beginning of

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on the inflation rate for the respective quarter and the other on the Central Bank's forecast for inflation two years ahead. Taylor rules are discussed in more detail in *Monetary Bulletin* 2002/2, Box 5, pp. 25-27. The chart also tracks the forward policy rate based on imputed forward market rates on February 2.

the month.[2] Here it should be pointed out that if inflation is generally felt first in sectors that do not face foreign competition, this may delay the monetary policy response and call for an undue tightening at times when the exchange rate and other asset prices are heading downwards. The Central Bank's research suggests that housing inflation is a leading indicator of general inflation later on.[3]

There are few indications of a significant downturn in demand growth in the next few months. After signs of a slight slowing in autumn and early winter, growth appears to have picked up towards the end of last year. Strong supply of mortgage credit at lower interest rates than before gives households the opportunity to ease their payments burden, increase their debt or withdraw mortgage equity. All these factors, combined with the resulting higher housing prices, fuel private consumption.

Despite being raised by almost 3 percentage points last year, the estimated policy rate in real terms is not significantly higher than Iceland's probable natural real interest rate. This is because inflation expectations have gone up in pace with past inflation. As long as inflation expectations remain so high, the effect of a higher policy rate is substantially dampened.

An appreciation of the króna will contribute towards steering inflation closer to target this year. However, it is uncertain whether this will suffice to ensure that the review clauses of wage settlements are not triggered, and neither does it seem likely that the monetary stance has been tightened enough to prevent inflation from climbing again next year, when production in excess of potential will probably peak. In order to attain the inflation target, the monetary stance needs to be tightened still further.

A squeeze on business profitability will be an inevitable side-effect

Over the next few months, businesses in the export and traded goods sectors will inevitably be squeezed as a side-effect of a tighter monetary stance. A tighter stance widens the interest-rate differential with abroad, if foreign interest rates remain low. The interest-rate differential calls for an inflow of credit and appreciation of the króna until expectations of a subsequent depreciation leave foreign and

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[2] However, it should be remembered that the 2½% inflation target is based on using the CPI including housing prices. If it was decided to base the inflation target on the CPI excluding housing, the target itself would need to be revised, presumably downwards For example, at the beginning of this year when the Bank of England switched its reference index to the EU's harmonised consumer price index (HICP), in line with the UK government's desire for closer harmonisation with European Central Bank policy, the inflation target was lowered from 2½% to 2% at the same time.

[3] Pétursson, Thórarinn G. (2002), Evaluation of core inflation and its application in the formulation of monetary policy, *Monetary Bulletin*, 2002/4, pp. 54-63.

domestic borrowing equally favourable. As long as supply of foreign credit remains at its present high level, it is inevitable that monetary policy measures will largely be transmitted through changes in the exchange rate. Exporters and other companies competing with abroad will therefore need to prepare to face tougher times for a while. It should be remembered that an easier monetary stance will not necessarily prevent the króna from appreciating in real terms. The appreciation could happen later, if it is driven by higher inflation and wage rises rather than by a higher nominal exchange rate. Under such a scenario, there is a risk that the monetary authorities will eventually face just as strong an exchange rate in real terms but with higher inflation, at precisely the time when the króna is likely to weaken again. Such circumstances require higher interest rates than otherwise to contain inflation, which exacerbates the risk of financial instability. In this context it should be pointed out that, when the fixed exchange rate regime was in effect, the peaks in the real exchange rate were even higher than at present. The difference is that the real exchange rate appreciated then solely due to higher inflation and wage increases than among trading partner countries, and not because of a higher nominal exchange rate. Given the current high level of price-indexed debt to income, such a scenario could prove much riskier now than it was then. The aluminium-related investments will unavoidably have a sizeable crowding-out effect. At most, monetary policy can make some difference in the timing of this effect, but cannot prevent it. Attempts to postpone the crowding-out effect will in all likelihood only make it tougher to deal with. For example, this could lead to labour disputes and higher wage rises than otherwise, and therefore higher inflation next year. On the other hand, a tighter fiscal stance than is currently planned would reduce the need for a tighter monetary stance and thereby its undesirable side-effects as well.

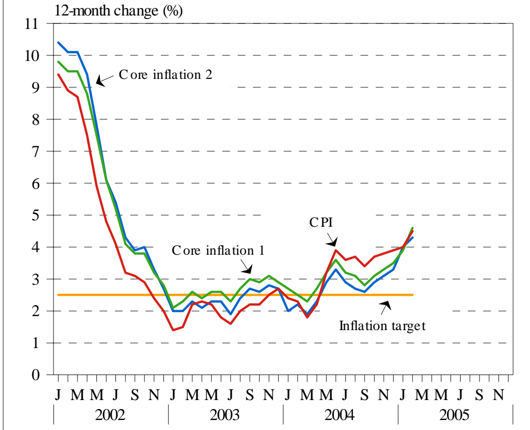
Claims have been heard that raising the minimum reserve requirement may be a more suitable measure for reducing credit supply than an interest rate hike. The Central Bank does not agree. First, strong domestic financial institutions now have various opportunities for avoiding the effects of higher reserve requirements. Second, the impact of higher reserve requirements may vary widely between individual credit institutions, and could, for example, strike especially hard at savings banks which do not have the same options for side-stepping them. Third, international experience shows that the effects of changes in reserve requirements are particularly unpredictable and may have major consequences for individual institutions. This is the main reason that none of the world's main central banks uses changes in reserve requirements as a policy instrument any longer. Fourth, changes in reserve requirements have basically the same effect on interest rates and the exchange rate as a change in the policy rate, even though the transmission mechanism may be different and the effects on individual

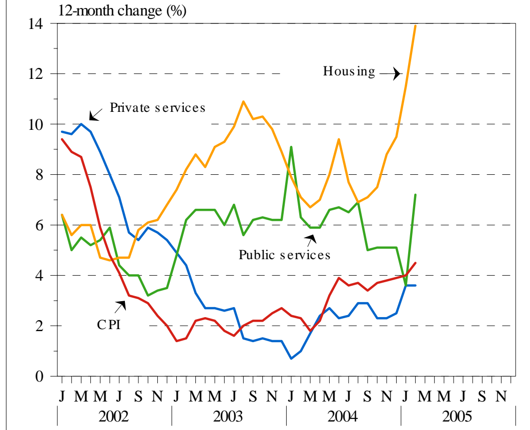
sectors of the credit system may vary. Fifth, a change in the reserve requirement is a non-transparent measure with an unforeseen impact on expectations. If the impact of a policy rate hike is reflected in lower inflation expectations, this will reduce the cost of the tighter stance.

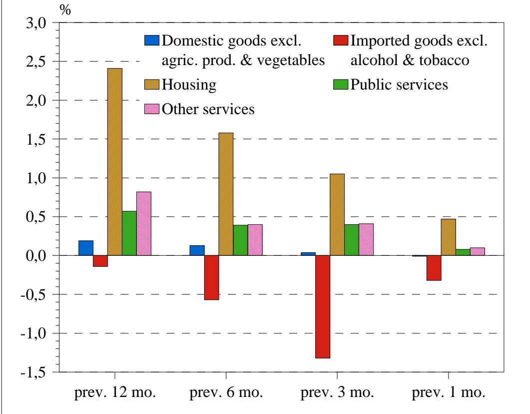
The policy interest rate will be raised by 0.5 percentage points as of February 22

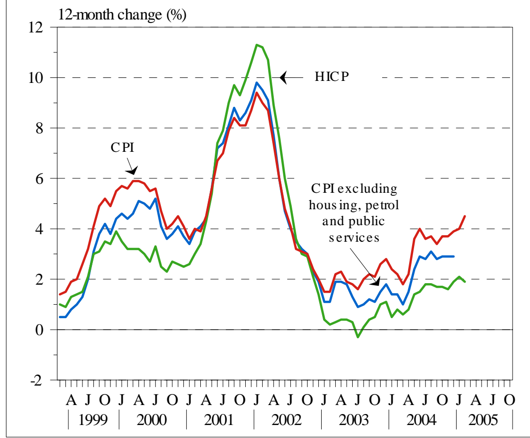
In the introduction to *Monetary Bulletin* 2004/4, the Central Bank implied that the policy rate would need to be raised even further in order to meet the target of maintaining inflation as close to 2½% as possible over the coming two years. Having considered the matter, the Board of Governors of the Central Bank has concluded that a further step towards a tighter monetary stance needs to be taken at present. The Board of Governors has therefore decided to raise the policy interest rate by 0.5 percentage points as of February 22, 2005. The Bank's other interest rates will be raised by 0.5 percentage points as of February 21. Even further tightening will probably be needed during the year. With a sufficiently tight stance, the Bank feels that the target will be attainable within two years. Inflation will probably have moved back within the tolerance limits this summer and, with a sufficiently tight stance, close to the target next year. The Central Bank will not flinch from attaining that target.

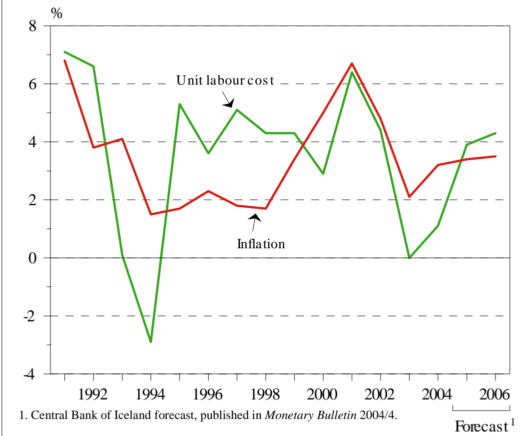
The Central Bank's new macroeconomic and inflation forecast will be presented in *Monetary Bulletin*, which will be published on March 22, 2005.











1. Central Bank of Iceland forecast, published in *Monetary Bulletin* 2004/4.