*Economic and monetary developments and prospects*[1]

# Near-term inflation outlook worsens after exchange rate slide

*Inflation and inflation expectations have increased over the past few weeks, partly due to a considerable depreciation of the króna. The inflation prospects for the near term have therefore worsened. The Central Bank forecasts that inflation could reach as much as 6% during the second half of the year and be 5.7% over the year. Subsequently, inflation is likely to subside as the economy cools down. This is based on the assumption that conceivable further depreciation will be temporary, and that current wage agreements will not be disrupted. If this holds good, the Central Bank's newly set inflation target will be achieved around the middle of 2003, but inflation is likely to exceed the tolerance limits early next year.*[2] *The monetary stance remains tight despite the recent reduction in the Central Bank policy rate by half a percentage point. The stability of the exchange rate has been undermined by an excessively large current account deficit. Notwithstanding the deficit, in the Central Bank's view, long-term economic fundamentals do not justify further depreciation. Nonetheless, the current account deficit, labour disputes and the tendency of foreign exchange markets to overshoot could temporarily cause the króna to slide even further. Poorer inflation prospects and pressure on the króna will hold back any further lowering of interest rates for the time being, even though the slowdown of economic activity might warrant some monetary easing. Thus it has become more likely that measures to bring inflation down will be accompanied by a contraction in economic activity.*

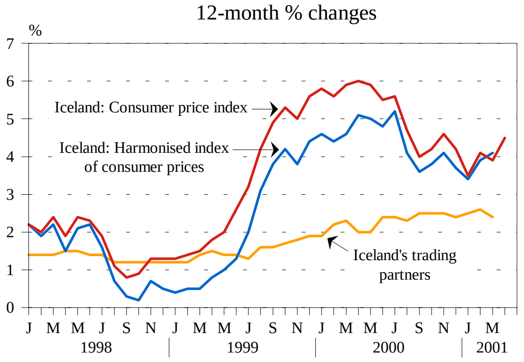
### *Inflation has risen again, partly because of the depreciation of the króna*

Inflation has been increasing in the course of this year. A large rise in the CPI in April pushed the twelve-month increase up to 4½%, compared with 3½% at the beginning of January. In part, low inflation in January was the result of changes in the way real estate taxes are measured in the index.[3] Inflation has also risen in terms of the harmonised CPI (HICP) used across the European Economic Area. In March the HICP had risen by 4.1% over the preceding twelve months, compared with 3.4% in January. At the same time, inflation remained unchanged among Iceland's main trading partner countries at 2.4%. Higher inflation and the depreciation of the króna have driven up inflation expectations. The inflation

Chart 1

CPI inflation 1998-2001

12-month % changes




1. This article uses data available on April 26, 2001.

2. The tolerance limits for inflation specify when the Central Bank is obliged to explain to the government the reasons for such a large deviation from the inflation target. See separate article on the new monetary framework on p. 40.

3. See *Monetary Bulletin* 2001/1.

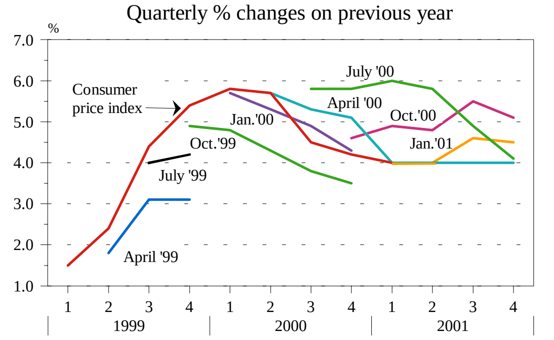
premium on treasury instruments with a lifetime of 2-3 years increased from just over 4% in the New Year to 5% on April 26.

In February, the Central Bank forecast that the CPI would stand 4% higher in the first quarter than a year before, which turned out to be exactly the case. The Central Bank nonetheless forecast a larger increase in the CPI during the first part of the quarter and a smaller one during the second part than turned out to be the case. As a result, the twelve-month rise in the CPI in April was marginally higher than had been expected, or 4.5%. Every April, Statistics Iceland reviews the expenditure base of the CPI, taking into consideration changes which have occurred in the weighting of its individual components, because of changes in relative prices or special circumstances. Real estate taxes and motor vehicle taxes were removed from the CPI this year, in line with international standards which exclude direct taxation from consumption expenditure.

Chart 2

CPI and Central Bank inflation forecasts 1999-2001

Quarterly % changes on previous year



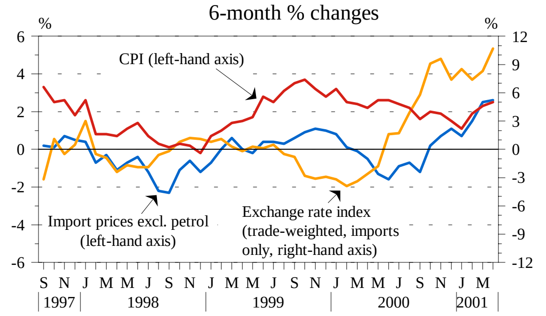

*Sources:* Statistics Iceland, Central Bank of Iceland.

The latest CPI measurements suggest that the impact of the recent depreciation of the króna is beginning to be felt in prices, and reports of rising prices of imported goods have been frequent in April. In April the CPI rose 1.2%, an exceptionally large increase for a single month. Although the impact of exchange rate depreciation could be discerned, various temporary factors also made a substantial contribution to the increase in inflation. A seasonal rise in protective tariffs played some part in the 6.1% increase in prices of imported food, which contributed 0.19% to the rise in the CPI. A 10.6% rise in the price of fruit, which contributed 0.11% to the increase in the CPI, was probably caused by the currency depreciation. Vegetables and other items rose by 14.6%, causing a 0.17% rise in the index. A 4.7% increase in clothing prices (impact on the CPI: 0.25%) can largely be explained by the fact that winter sales came to an end in March. In April, prices of clothing and shoes were at the same level as a year before, and almost 1% lower than in December.

Chart 3

Consumer prices, import prices excl. petrol and the import-weighted exchange rate index

6-month % changes




*Sources:* Statistics Iceland, Central Bank of Iceland.

### *Housing prices continue to rise, contrary to forecasts, but general market services weigh heavier in the CPI increase*

There have been some signs indicating that the overheating in the housing market is on the wane. The 1.4% rise in the market price of housing, which led to a 0.14% increase in the CPI in April, therefore came as something of a surprise. Despite this increase, the 12-month rate of change in the housing component of the index slowed down, even though it remained somewhat in excess of the overall rise in the index. In April, the housing component had risen by 7.4% from the same month the previous year, and imputed rent from own housing by 8.2% over the same period. Just over one-fifth of the 4.5% rise in the index in April could be attributed to higher housing prices. The index showing the three-month average price per square metre of residential accommodation in the Greater Reykjavík Area had gone up by 10% in March in the space of twelve months. In February last year housing prices had risen by more than 22½% in the space of a year. Subsequently, housing price inflation in Reykjavík began to slow

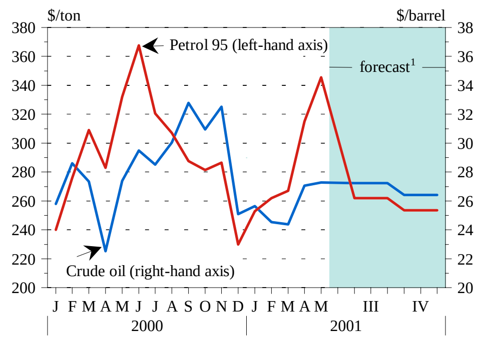
## Box: Oil and petrol market scenario

Icelandic oil companies tend to review their petrol and oil prices at the end of each month. Changes in the exchange rate and prices on the world market are therefore transmitted relatively quickly into domestic retail prices. Recently, petrol prices have risen considerably, approximately 30% since mid-March. Crude oil prices have gone up by much less over the same period, or 15%. As a rule, crude oil prices have led those for petrol. Changes in production volume by the OPEC countries are therefore a major determinant of petrol price changes. Recently, however, petrol prices appear to have led those for crude oil, suggesting that change in demand is the source of the fluctuations. The seasonal increase in petrol sales during summer probably plays some part, while production problems at refineries can also be expected to have an impact on prices. The difference between prices of crude oil and refined fuels has also risen in recent months; refineries appear to have been increasing their margins. Recent price increases seem to have been prompted by mostly short-term factors. If so their impact is likely to be levelled out in the second half of the year.

At the end of April petrol prices were 10% higher than a year ago, shortly before they rose by one-third until the end of June 2000. The average price during the first four months of the year, however, was virtually unchanged from a year ago. If petrol prices begin their seasonal climb in spring, further rises can be expected in the weeks to come. It should be borne in mind, however, that the seasonal upswing began unusually early this year, and correspondingly may end earlier too. Since strong demand for petrol is pushing up crude oil prices, OPEC is just as likely not to recommend the production cuts which had been expected in June. An IEA Agency forecast from April assumes that petrol prices this summer will be little changed from a year ago. Furthermore, prices are expected to rise at the start of the summer, then fall for the rest of the year.

Based on forward prices, petrol prices in Q3 and Q4 will be about one-quarter lower than the April spot price. In recent weeks, forward prices have risen much more slowly than spot prices, by 6% and 30% respectively. The market therefore seems to view the current rises as temporary.

### Oil and petrol prices 2000-2001




1. Forecast for quarters III and IV, based on forward prices in the Rotterdam market.

down. Between Q4 of 2000 and Q1 of 2001, the index for the area rose by 2%, or roughly 1.2 percentage points more than the general price level. Regional housing prices have risen more slowly than those in the Greater Reykjavík Area, which accounts for the smaller increase in the CPI housing component. If housing price rises continue to slow down at the same pace as in recent times, they will soon begin to fall in real terms.

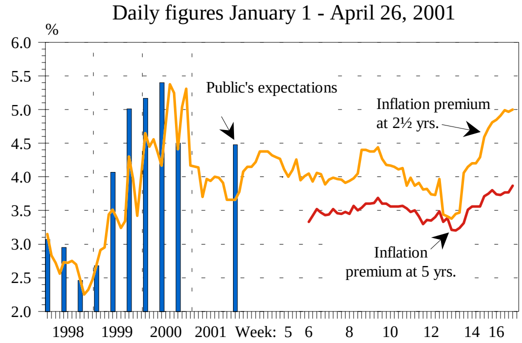
Prices of general market services have risen considerably of late. In April, private services had risen by 6.8% over the preceding twelve months, accounting for 1.3% of the CPI increase. Most of this increase can be attributed to higher wage costs. This could suggest that the rise in the service component of the index was close to peaking in March when the twelve-month increase was 7.2%, since it is likely that higher wage costs due to last year's wage agreements in the general labour market have already largely been transmitted into the price level. However, the recent slide in the króna may have some effect on this component.

The Central Bank monitors inflation expectations by a survey of expectations among the general public three times a year, and by evaluating the inflation premium on treasury bonds, i.e. the difference between yields on nominal (non-indexed) and indexed (real) treasury bonds with a similar maturity. The last survey of public inflation expectations was made in January, when they turned out to be 4½% on average. For most of this year so far, the inflation premium on 2-3-year treasury bonds hovered around 4%, cf. Chart 4. It then took a temporary dive following fairly favourable inflation measurements in February and March. In the past few weeks, however, expected inflation has risen sharply because of the depreciation of the króna and the large rise in the CPI in April. Expected inflation is currently in the region of 5%. The inflation premium on bonds with a longer maturity has not risen by as much and is now around 3.9%. This indicates the market's confidence that inflation will head downwards again when the impact of the most recent depreciation has tailed off.

Chart 4

Inflation expectations

End of month figures 1998-2000. Daily figures January 1 - April 26, 2001




## *How fast is the economy cooling?*

The clearest signs that the overheating of the economy is beginning to subside are indicators of turnover given by tax receipts. Retailing contracted last year in real terms, and during the last two months of 2000, stagnation occurred in manufacturing industries (apart from power-intensive industry and the fish industry) and also in wholesaling. The main exceptions were the construction industry and services. In construction activity, turnover increased more in 2000 than the preceding year, and service turnover remained robust. During the first quarter of 2001, VAT receipts were 1½% lower in real terms than the year before, and indirect tax receipts were down by 2%. This was mainly the result of lower VAT payments in February, based on turnover in the last two months of the year 2000, but lower VAT receipts from imports during the first quarter and various other indirect taxes were also contributing factors. Imports excluding volatile items during Q1 turned out to be almost unchanged from the same period the year before, cf. Table 1 on p. 7.

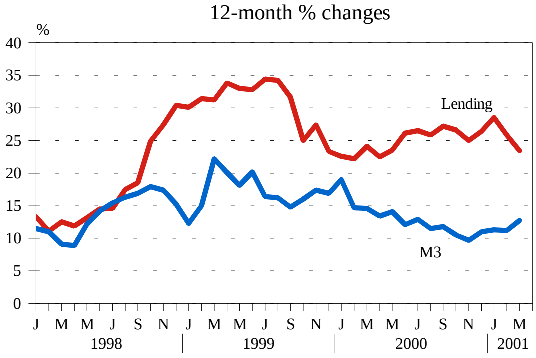
Interestingly, although indirect tax receipts contracted during Q1, total tax receipts increased by almost 5% in real terms compared with the same quarter in 2000. This was caused by a substantial increase in income tax receipts. Personal income tax, for example, was more than 9% higher in real terms and PAYE collections grew by a similar amount. This indicates that incomes are still rising at a hefty pace. The strength of income growth at the same time as receipts from consumption taxes contracts could suggest that household saving levels are finally beginning to rise, which in turn could cause the current account to shrink once export revenues recover after the fishermen's strike ends. Although this trend is both desirable and necessary, a sharp rise in the savings level may make the landing harder and cause problems for those firms that depend on the domestic market and imports.

Other signs of a cooling of the economy are not particularly strong, suggesting that overheating still has not subsided significantly. Credit by deposit money banks (DMBs) over the twelve months until the end of March, for example, grew by 23%, almost

Chart 5

M3 and banks' lending 1998-2001

12-month % changes



the same pace as year ago. Admittedly, part of this growth in the past few months was caused by rises in currency-indexed liabilities due to the depreciation, but even after taking that into account, credit growth is still running in double digits, which is too high to be compatible with a low rate of inflation in the long term. Growth in money supply (M3) is also running in double digits, although it has been gradually slowing down since spring 1999, when it measured around 20%.

Contrary to expectations, residential housing prices continued to rise during the first quarter of this year. Housing prices have not started to decline in real terms, although housing price inflation has abated from a year ago. However, the contraction in market value of issued housing bonds suggests that the real estate market is beginning to slacken. Anecdotal evidence points in the same direction. Downward pressure on prices will conceivably be preceded by slower sales, as sellers at first refuse to accept lower prices. As the Real Estate Evaluation Office index is based on signed sales agreements and does not reflect lower offered prices for assets yet to be sold, a decline in housing prices could lie ahead.

The state of the labour market is an important macroeconomic indicator and particularly of inflationary pressure. However, the labour market does not give as timely an indication as some other aggregates. Contraction generally appears earlier in the goods and services markets. The labour market is still quite tight. Unemployment measured lower in March than year ago, and a weak trend towards rising seasonally adjusted unemployment, which seemed to emerge in previous months, paused. The number of work permits issued to nationals of non-EEA countries during Q1 was still much larger than in the first three months of 2000, and vacancies registered at employment agencies tell a similar story. The National Economic Institute's labour market survey in January showed that employers still wanted to take on workers, although not on the scale of January last year. Nationwide, employers desired to increase their staffing by 0.1%, compared with 0.3% last year. The sharpest turnaround was in the Greater Reykjavík Area, where employers wanted to add 0.2% manpower, as against 0.8% at the same time in 2000. Demand nonetheless remained strong in the construction industry, transport and business services.

Table 1 Selected indicators

(Based on latest data on each indicator)

| *I Turnover and demand – change on previous year (%)* | *Data period[7]* | *2000* | *2001* |
|---|---|---|---|
| General merchandise imports[1] | Jan. - Dec. | 4.6 | 3.6 |
| without fuels and metal smelters[1] | Jan. - Dec. | 3.4 | 5.2 |
| Import of consumer goods[1] | Jan. - Dec. | 10.4 | 0.3 |
| without automobiles[1] | Jan. - Dec. | 9.0 | 4.5 |
| General merchandise imports, seasonally adjusted[2] | Jan. - March | 12.1 | 0.1 |
| Merchandise exports[1] | Jan. - Dec. | 7.4 | -0.7 |
| Turnover based on VAT records[3] | Jan. - Dec. | 6.9 | 3.4 |
| manufacturing excl. fish processing and metal smelters[3] | Jan. - Dec. | 6.3 | 3.4 |
| retail trade[4] | Jan. - Dec. | 5.1 | -0.9 |
| Payment card turnover (in real terms) | January | 17.5 | 8.7 |
| *II Tax receipts – real change on previous year (%)[5]* | | | |
| Total taxes | Jan. - March | 7.2 | 4.8 |
| VAT | Jan. - March | 7.7 | -1.4 |
| *III Labour market* | | | |
| Unemployment rate (%) | March | 1.9 | 1.5 |
| New work permits | Jan. - March | 205 | 323 |
| Job vacancies (monthly averages) | Jan. - March | 385 | 506 |
| *IV Money and credit – change on previous year (%)* | | | |
| Money supply (M3) | March | 14.6 | 12.7 |
| Bank credit | March | 24.0 | 23.4 |
| Credit system total credit | December | 17.7 | 18.4 |
| *V Asset prices – change on previous year (%)* | | | |
| Share prices (ICEX-MAIN index) | April 26 | 45.3 | -34.8 |
| Housing prices (Greater Reykjavík Area)[6] | March | 21.2 | 10.0 |
| in real terms[6] | March | 14.6 | 6.0 |

1. At fixed prices in Icelandic króna terms (Fisher price indices).
2. At fixed prices and exchange rates.
3. In real terms (deflated by consumer prices less housing prices).
4. In real terms (deflated by consumer prices less housing and fuel prices).
5. In real terms (deflated by consumer prices).
6. Based on 3-month moving average of prices. Change in real terms is change in excess of consumer price changes.
7. The data period January - December is for 1999 and 2000 respectively.

*Sources*: Statistics Iceland, National Economic Institute, Directorate of Labour, Iceland Stock Exchange, Valuation Office of Iceland, Central Bank of Iceland.

On first impression, Statistics Iceland's labour market survey from the end of March and beginning of April seems to suggest a slightly less tight labour market than a year ago. Unemployment measured marginally higher at 2.1%, compared to 1.9%, and weekly hours worked decreased from 44.3 to 43.5. However, on closer examination, it is too early to conclude from these figures that tightness in the labour market has eased significantly. The fall in unemployment is insignificant, and the fishermen's strike may have distorted the figures. Hours worked measured exceptionally high last year, but the current figure is similar to last November and close to the average for the period 1995-1999. A comparison between the Greater Reykjavík Area and regional Iceland also reveals little apparent easing of labour market pressure in and around the capital. Total employment, i.e. average hours worked multiplied by the number of persons employed, was larger in the Greater Reykjavík Area than last year, but less in the regions.

### *Real wages rose by just over 4½% in the course of one year*

The wage index for all groups of wage earners rose by 3.9% from Q4 of 2000 to Q1 of 2001. At the same time, the wage index excluding public sector workers and bankers rose by 4.6% and the index for public sector and bank employees by 2.9%. Between February and March the monthly wage index for the entire labour market rose by 1.1%, largely as a result of the wage agreements between the municipalities and the public sector union, BSRB, and pre-school teachers. These figures also reflect agreements made by the central government with several smaller groups of wage earners, such as university educated civil servants and air traffic controllers.

The wage index for the general labour market went up by 11.1% from Q1 in 2000 to Q1 this year. At a rough estimate, at least 8.8 percentage points of this increase are contractual, meaning that wages may have gone up by as much as 2.1% in excess of negotiated rises. Real wages rose considerably over the period. Since the CPI increased by 4.0%, wages in the general market rose by 6.8% over the same period in real terms. Real wages of public sector and bank employees went up by considerably less, or 1.7%. This was the first time since 3Q in 1997 that public sector wages have risen by less in a single year than those in the general market. On average, real wages were 4.7% higher in Q1 2001 than a year before.

### *The Central Bank publishes its inflation forecast for the first time under the new monetary policy framework*

The inflation forecast described below is the first the Central Bank publishes since the framework for monetary policy was changed, as is described in a separate chapter. Essentially, the Bank's method of forecasting has changed little, since domestic prices continue to be determined by the same key variables, i.e. domestic wage costs, the exchange rate of the króna and imported inflation. Underlying these aggregates are others which guide the inflationary trend, such as the output gap, tightness of the labour markets and inflation expectations.

For the first time, the forecast is made under a floating exchange rate regime. Although the exchange rate band had been widened so far as to allow considerable flexibility, the goal of exchange rate stability more or less restricted the Central Bank to the assumptions that the exchange rate would remain unchanged from the day of the forecast. Now, the Bank is under no such obligation. Research and experience both suggest, however, that exchange rates are one of the most difficult of all economic variables to forecast, at least in the short term.[4] Thus assuming an unchanged exchange rate appears to produce the best results, at least as long as the forces pulling the exchange rate in one direction or another are not decisive. Hence, the forecast presented here is also based on the assumption of an unchanged exchange rate from the forecast date of April 26.

Under the new monetary regime, the Central Bank is obliged to forecast inflation over a horizon of two years, which reflects the estimated lag from a monetary action until its impact has been fully transmitted into prices. The Central Bank, however, has decided to publish an inflation forecast until the end of 2003, which is three quarters longer than stipulated under the framework. This is done to reveal better

4. See, e.g., R. Meese and K. Rogoff (1983), "Empirical exchange rate models of the seventies: Do they fit out of sample?", *Journal of International Economics*, 14, 3-24.

how the inflation forecast fits in with the long-term objective of monetary policy.

### *New inflation forecast: Temporary rise in inflation after the króna weakened*

The forecast presented here reflects the impact of the depreciation of the króna since the last forecast was published. This depreciation is seen as causing a temporary rise in the inflation rate this year and the first part of next year. Afterwards, inflation is forecast to decelerate gradually, as the growth in domestic demand slows down.

In its February forecast, the Central Bank forecast 4% inflation between Q1 of 2000 and 2001, which turned out to be the case. Nonetheless, somewhat higher inflation is now expected this year and next year than was forecast then. Broadly speaking the deterioration in the inflation outlook is explained by a considerable depreciation of the króna from the time of the last forecast. In February, the Bank forecast an inflation rate of 4.6% over 2001 and 2.7% in the course of 2002.[5] Now, inflation is forecast at 5.7% this year and 3.4% over 2002. The first forecast for 2003, published here, sees inflation of 2.1% in the course of the year. A more detailed explanation of the forecast can be found in Table 2.

Inflation is forecast to rise somewhat until the final quarter of this year, then gradually diminish as the impact of the depreciation fades out. According to the forecast, inflation will decelerate quite rapidly in the course of next year in line with a slowdown in domestic demand, provided that the exchange rate remains stable. As shown in Table 3, the Central Bank's forecast seems fairly pessimistic in comparison with those of other institutions and market participants. It should be borne in mind, however, that these other forecasts are considerably older and some of them were made when the króna was stronger than on April 26. An upward revaluation of these fore-

Table 2 Inflation forecast of the Central Bank

*Quarterly changes*

| *Quarter* | *Change from previous quarter (%)* | *Annualised quarterly change (%)* | *Change on same quarter of previous year(%)* |
|---|---|---|---|
| 2000:1 | 1.1 | 4.3 | 5.8 |
| 2000:2 | 1.4 | 5.9 | 5.7 |
| 2000:3 | 0.5 | 2.1 | 4.5 |
| 2000:4 | 1.1 | 4.6 | 4.2 |
| 2001:1 | 0.9 | 3.4 | 4.0 |
| 2001:2 | 2.5 | 10.4 | 5.1 |
| 2001:3 | 1.4 | 5.6 | 6.0 |
| 2001:4 | 0.8 | 3.4 | 5.7 |
| 2002:1 | 0.5 | 2.0 | 5.3 |
| 2002:2 | 1.1 | 4.5 | 3.9 |
| 2002:3 | 0.9 | 3.8 | 3.4 |
| 2002:4 | 0.8 | 3.3 | 3.4 |
| 2003:1 | 0.1 | 0.5 | 3.0 |
| 2003:2 | 0.6 | 2.3 | 2.5 |
| 2003:3 | 0.7 | 2.7 | 2.2 |
| 2003:4 | 0.7 | 2.8 | 2.1 |

*Annual changes (%)*

| *Year* | *Year on year* | *Within year* |
|---|---|---|
| 1998 | 1.7 | 1.3 |
| 1999 | 3.4 | 5.8 |
| 2000 | 5.0 | 3.5 |
| 2001 | 5.2 | 5.7 |
| 2002 | 4.0 | 3.4 |
| 2003 | 2.4 | 2.1 |

Shaded area indicates forecast.

Table 3 Inflation forecasts and inflation expectations

| | *2000* | | *2001* | |
|---|---|---|---|---|
| | *Year on year* | *Within year* | *Year on year* | *Within year* |
| Average forecast ........ | 4.4 | 4.3 | 3.8 | 3.0 |
| General public's inflation expectations.. | . | 4.5 | . | . |
| Inflation premium on treasury instruments.... | . | 5.0 | . | . |

Inflation forecasts are published by Íslandsbanki-FBA, Landsbanki, ECF, Kaupthing and the National Economic Institute. The public's inflation expectations are surveyed three times a year. The interest rate premium is the difference between interest rates of indexed and non-indexed treasury instruments with a maturity of just over two years. It is a measure of market participants' expectations for the average rate of inflation over the next two years.

5. The February forecast assumed 4.3% inflation between the annual averages for 2000 and 2001, and 3.2% between 2001 and 2002. The corresponding forecast is now 5.2% and 4%. Average annual prices are forecast to rise by 2.4% between 2002 and 2003.

casts can therefore be expected, along the same lines as the Central Bank forecast.

The table also shows inflation expectations among the general public and market participants. The last survey of inflation expectations was conducted in January, while the inflation premium is calculated based on available data on April 26. The inflation premium has risen fairly rapidly in recent weeks on account of the depreciation of the króna, but dropped by 0.6 percentage points the day after the new monetary framework was announced. A corresponding increase is likely to be shown next when the public's inflation expectations are surveyed.

### *Assumptions underlying the inflation forecast*

The assumptions underlying the February forecast reflect changes in factors including the National Economic Institute (NEI) forecast for growth and labour use, and the outlook for import prices, based on IMF and OECD forecasts. An overview of the main assumptions of the forecast is given in Table 4. The outlook for contractual wage increases is based on current settlements, and is therefore fairly certain. The assessment of the prospects for wage drift takes into account labour market conditions. Labour market pressures are expected to ease in the years to come, which is consistent with the NEI forecast. Domestic productivity is assumed to develop along the lines of the NEI forecast. Some decline in the growth rate of labour productivity is foreseen in the next few years, as economic growth slows down. As mentioned earlier, an unchanged rate of exchange is assumed from the day of the forecast, April 26. At that time the króna had depreciated by just over 6½% from the rate on which the Bank's February forecast was based. Import prices in terms of foreign currency are assumed to develop in line with IMF and OECD forecasts, while petrol price trends in international markets are projected on the basis of forward contracts, cf. the discussion in the box on p. 5.

Table 4 Main assumptions of the inflation forecast

| *Percent changes between annual averages* | *2000* | *2001* | *2002* | *2003* |
|---|---|---|---|---|
| Contractual wages | 3.7 | 5.4 | 3.7 | 2.9 |
| Wage drift | 2.0 | 1.7 | 1.2 | 1.0 |
| Domestic productivity | 2.2 | 1.7 | 1.5 | 1.5 |
| Effective exchange rate of the króna (based on imports) | -1.0 | 13.6 | 2.1 | 0.0 |
| Import prices in foreign currency terms | 3.3 | 2.4 | 1.0 | 1.3 |

The experience of recent months appears to suggest that there could be a longer lag in the transmission of exchange rate changes to domestic prices. This change may be either temporary or permanent and is consistent with the experience of other countries which have introduced a flexible exchange rate regime. However, there are no arguments, neither theoretical nor empirical, to suggest that permanent changes in the exchange rate will not eventually be transmitted to prices, in accordance with historical long-term relationships. For this reason, the recent depreciation of the króna is expected to be transmitted into prices somewhat more slowly than available models would suggest, while the long-term relationship remains unchanged.

Real estate prices are expected to stop rising in the near future and remain unchanged in nominal terms for a year from June. This is equivalent to a drop in housing prices of about 5% in real terms over the period. Underlying this assumption are signs that the excess demand in the housing market is beginning to ease, which is expected to be reflected in housing prices once trading picks up in the types of residential property that have fallen the most.

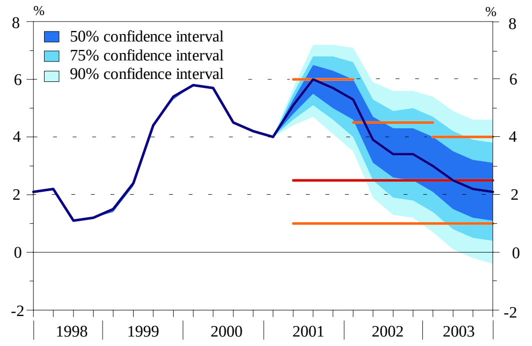
### *Uncertainties and risk factors*

Chart 6 shows the Bank's quarterly forecast and an evaluation of the uncertainty that is inevitably inherent in such forecasting. It represents different probabilities that inflation will end up within a given range. Thus the darkest range is the one inside which there is 50% probability that inflation will fall. The two darkest ranges show the corresponding 75% confidence interval, and the coloured area the 90% confidence interval. Accordingly, for example, there is a 90% probability that inflation during Q4 of 2002 will be in the range 1-5½%, 75% probability that it will be in the range 2-5% and 50% probability of being in the range 2½-4½%. The uncertainty increases the longer the horizon of the forecast, as reflected in the widening of the confidence interval.

By presenting the forecast with an assessment of its confidence interval, the Central Bank emphasises that forecasts are subject to considerable uncertainty

Chart 6

Central Bank inflation forecast




and that it is not appropriate to focus excessively on specific values. In the future, the Bank will publish its inflation forecasts as shown in chart 6.[6]

As always, considerable uncertainty surrounds the assumptions of the forecast. The greatest uncertainty lies in the exchange rate of the króna. It is argued below that the exchange rate of the króna is not overvalued and that the depreciation in recent weeks is at least partially an overshooting. Nonetheless, in light of the large current account deficit and recent deterioration in economic sentiment, it cannot be excluded that the króna will continue on its downward trend in the absence of some positive news on the economic factors affecting the exchange rate, such as export revenues, the current account deficit, capital flows and inflation. The interest rate differential with abroad on instruments with a maturity of 1-2 years could herald expectations of a further depreciation, but the risk premium may also have increased. The risk premium is probably very high at the moment. Moreover, news on the development of fundamentals will alter the interest rate differential as much as they affect the exchange rate. Uncertainty about the exchange rate may work in both directions, especially from a longer-term perspective. This is compounded by uncertainty on the lag in the effects of the depreciation on inflation.

Some uncertainty surrounds the residential housing market over the next few months. If housing prices go on rising, against all expectations, inflation in the near term will run higher than forecast. A sharp drop in residential housing prices could by the same token lead to less inflation.

On a longer-term view, inflation expectations and wage formation are highly uncertain. If the current level of inflation becomes entrenched, the disinflation is likely to be slower, among other things because of the impact on wage formation. The conceivable review of wage agreements next year is also the source of significant uncertainty.

### *Inflation could temporarily exceed the tolerance limit*

Chart 6 shows forecast inflation in comparison to the Bank's inflation target. The Bank's forecast assumes that inflation will be very close to the upper tolerance limit of the policy during the second part of this year and will exceed it during the first quarter of next year when it is brought down to 4½%. If this turns out to be the case, the Central Bank will need to submit a report to the government explaining why inflation has exceeded the limit and describing its planned response. According to the forecast this overshooting will only last for a short period, when the effect of the depreciation of the króna is appearing. Subsequently, inflation will subside, be within the tolerance limits by the first half of 2002 and remain well within them afterwards.

### *NEI forecasts larger current account deficit*

The National Economic Institute published a forecast in March. The main changes in the estimated outcome for 2000, compared to a forecast published in December, are that growth in capital formation is now considered to have been somewhat less (9% instead of 10.8%), but the current account deficit larger (at 10.3% of GDP instead of 9.1%). Consequently, last year's GDP growth is now estimated at 3.6% instead of 4%.

Compared with the forecast that accompanied the National Budget on October 1, 2000, the changes are more marked. Growth in private and public con-

6. The assessment of uncertainty in the inflation forecast is based on the Bank's historical forecasting errors where appropriate, and on a simple extrapolation of the forecasting uncertainty over the horizon the Bank has not hitherto forecast. Just as forecasts for individual values are subject to uncertainty, so is the estimated uncertainty of forecasts. The estimated forecast uncertainty should therefore be interpreted with caution. The aim is to highlight the inherent uncertainty of forecasting rather than to provide precise assessment of the probability distribution of forecast inflation.

Table 5 Economic prospects 1998-2001

| Volume changes on previous year (%) | *NEI Economic outlook in March 2001*[1] 1998 | 1999[2] | 2000[3] | 2001[4] | Deviation from Dec. 2000[5] | IMF forecast 2001 | IMF forecast 2002 | OECD forecast 2001 | OECD forecast 2002 |
|---|---|---|---|---|---|---|---|---|---|
| Private consumption | 10.0 | 6.9 | 4.0 | 2.5 | 0.8 | 2.2 | 2.3 | 1.8 | 2.4 |
| Public consumption | 3.4 | 5.1 | 3.7 | 3.1 | -0.1 | 3.0 | 2.5 | 2.5 | 2.0 |
| Gross fixed investment | 26.6 | -0.8 | 9.0 | -2.5 | 0.1 | -2.4 | -0.9 | -1.4 | 1.0 |
| Total national expenditure | 12.3 | 4.6 | 5.4 | 1.1 | 0.2 | - | - | 1.0 | 1.9 |
| Exports of goods and services | 2.2 | 4.4 | 5.1 | 3.4 | 3.4 | 0.3 | 2.6 | 0.0 | 4.0 |
| Imports of goods and services | 23.3 | 5.7 | 9.3 | 0.9 | 2.1 | -0.9 | 1.3 | -1.0 | 2.5 |
| Gross domestic product | 4.5 | 4.1 | 3.6 | 2.0 | 0.4 | 1.9 | 2.1 | 1.5 | 2.4 |
| Gross national product | 4.6 | 4.1 | 2.9 | 1.6 | 0.9 | - | - | - | - |
| Current account balance, % of GDP | -6.9 | -7.0 | -10.3 | -10.1 | -0.8 | -10.6 | -8.2 | -10.6 | -9.7 |

1. NEI = National Economic Institute. 2. Preliminary. 3. Estimate. 4. Forecast. 5. Percentage points difference between two NEI forecasts for the year 2001, in December 2000 and March 2001, respectively.

sumption were forecast at 2.5% then, compared with the current estimated outcome of 4% and 3.7% respectively. In October the growth in capital formation was forecast only 2.1%, and a current account deficit of 4.2% of GDP was projected.

A GDP growth of 2% is forecast for the current year, compared to 1.6% envisaged in December and October. Private consumption is now expected to grow by 2.5%, which is similar to the October forecast, while growth of 1.7% was forecast in December. Export growth is currently forecast at 3½%, but in December no growth was foreseen. Imports are currently expected to grow by just under 1%, instead of contracting by more than 1%. Consequently, the forecast current account deficit widens to 10.1% of GDP instead of 9.3%.

According to NEI projections investment was equivalent to 23.8% of GDP in 2000. This is a higher level than in 1999, but marginally down from 1998, when it peaked. National saving reached a historical low last year at just over 13% of GDP, and is heading even lower in 2001, to 12½%. Last year the current account deficit widened by the equivalent of 3.3% of GDP. About 1 percentage point of the increase is attributable to more investment, and 2.3 percentage points to less national saving.

The NEI also provides a scenario for the conceivable development of main macroeconomic aggregates until 2005. GDP is projected to expand at a similar rate to national expenditure in the next few years, or by 3% on average. Private consumption is projected to grow by an average of 4% annually, with figures running higher later in the period than at its start, and public consumption by 2½% per year. Investment is initially expected to shrink, but on average it is projected to grow by 2% over the period. Exports and imports are forecast to increase by 3½% annually, the current account deficit is projected to remain in the range of 8-8½% of GDP, and national debt to amount to the equivalent of almost 130% of GDP in 2005. Unemployment is expected to be in the range 2-2½% and inflation 3-3½%.

An alternative scenario is calculated, based on the assumption that households increase their level of saving in the wake of the debt accumulation of recent years. According to this, private consumption would increase by 2½% per year, but investment remains constant. The current account deficit would shrink to 5½% of GDP at the end of the period.

The value of projections of this type lies in highlighting the problems faced by economic policy makers, rather than providing a forecast of economic developments. The sustainability of economic growth on the scale envisaged in the baseline scenario, without inflation getting out of control, is highly doubtful. As reported in the article on Financial Stability in this issue, Icelandic households and corporations are already deeper in debt than ever before and their level of indebtedness is extremely high. The baseline scenario implies that national debt will increase by the equivalent of 40% of GDP until the year 2005. Since it must be assumed that the treasury would continue to amortise its debt under these conditions, all the additional debt would be taken on by households and corporations. It is difficult to see that they could sustain such an increase in their debt burden. The alternative scenario is more probable. A harder landing could even be expected, judging from the experience of other countries which have experienced periods of comparable overheating.

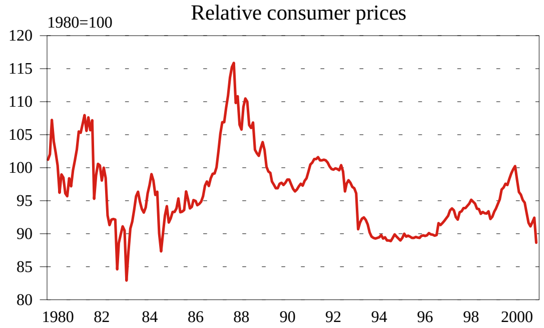
### *Further depreciation would be undesirable and not warranted by long-term fundamentals*

The króna was just over 7½% weaker on April 26 than at the beginning of the year, and had depreciated by more than 5% since the exchange rate band was abolished. Recently, the Central Bank has emphasised that further depreciation is not justified by fundamentals, besides being undesirable from the perspective of the inflation target and even financial stability. It has been pointed out that the real exchange rate of the króna is considerably below the average for the past twenty years. The real exchange rate index in April, in fact, reached its lowest level since 1984. It has also been pointed out that export growth in industries where supply is unrestricted is quite brisk. Thus Icelandic companies do not seem to have been restrained by higher costs relative to those in other countries. On the contrary, it was precisely the weaker króna and higher financial expenses which were among the most negative factors affecting corporate profits last year. As the quota system prevents Iceland's fisheries sector from taking advantage of the weaker króna by stepping up exports, the benefits of a weaker currency will be more subdued, even more so as indebted firms will incur substantial valuation losses. Normally an overvalued currency would be accompanied by persistently sluggish economic growth and underutilisation of domestic factors of production. This is far from the case at the moment. On the contrary, domestic factors of production have been overutilised, labour has been in short supply and wages have risen at an excessive pace. Under such conditions it would be highly imprudent to promote a further weakening of the króna. Thus it should be emphasised that the króna has already depreciated more than desired. However, the size of the current account deficit does indicate the need for a considerable adjustment in domestic demand. Above all the problem lies in excessive domestic demand and low national saving, which are the root of the current account deficit.

Chart 7

Real effective exchange rate of the króna January 1980 - April 2001

Relative consumer prices

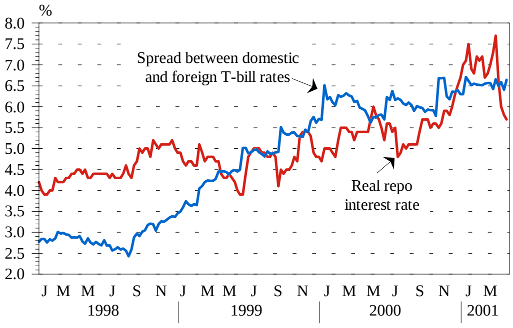



Domestic demand needs to be reduced to restore the stability of the króna. The process of adjustment, however, entails a certain risk of exchange rate instability. In this context it should be recalled that the Central Bank has repeatedly pointed out that an excessive current account deficit could undermine the stability of the exchange rate over the medium term and constituted a risk to price stability. Regrettably, this has turned out to be the case. In the past few weeks a fishermen's strike further weakened the króna.

In the short run, exchange rates are determined by fundamentals only to a limited extent. Exchange rates are asset prices which are influenced by expectations of economic prospects. Since information about the future is imperfect at best, expectations are highly volatile. As in other asset markets, exchange rates have a tendency to overshoot. Exchange rate movements may even be self-fulfilling, if a depreciation undermines confidence in the currency and prompts market participants to sell, thereby contributing to further weakening. The shallowness of the Icelandic foreign exchange market increases the likelihood that the market will be unable to match prospective sellers of króna with buyers at the cur-

Chart 8

Real interest rate and the spread between domestic and foreign rates, Jan. 1998 - April 2001




rent exchange rate, thus contributing to the excessive volatility of exchange rates.

Notwithstanding short-term volatility, exchange rates are ultimately determined by fundamentals. The scale of macroeconomic adjustment that is required should however not be underestimated. Monetary policy needs to be geared to achieving the inflation target. Hence, the Central Bank cannot ignore exchange rate developments, even though the formal exchange rate band which obliged the Central Bank to intervene has been abolished.

*Continuing tight monetary stance*

On March 27, the Central Bank announced that it would lower the interest rate on its repurchase agreements with credit institutions by half a percentage point, from 11.4% to 10.9%. The change in the framework of monetary policy from using the exchange rate as an intermediate target to direct inflation targeting inevitably altered the premisses on which the Bank's interest rate decisions are based. Since the interest rate strategy is no longer restricted by the obligation to maintain the exchange rate of the króna within the fluctuation limits, it can be geared more closely to the inflation prospects. Four main factors lay behind the Bank's decision to cut interest rates. Firstly, its February forecast which envisaged an inflation rate of less than 3% during 2000 was compatible with achieving the newly set inflation target. The króna had admittedly depreciated since the forecast was made, but in the Bank's view the depreciation was not justified by fundamentals, and could be seen as reflecting uncertainty about the pending changes in the monetary policy framework. Thus the prevailing view was that the króna would strengthen in the course of the year. Inflation in February and March was actually lower than the Bank had forecast and inflation expectations were down too. Secondly, initial signs of a cooling in the economy had appeared, especially in terms of a slowdown in turnover and imports. Thirdly, shortly before the NEI had forecast a considerable slowdown in domestic demand growth and GDP growth. In the Bank's view, this forecast suggested that the output gap would close in 2003. Fourthly, the monetary stance, as far as interest rates are concerned, was very tight, with an interest differential with abroad of more than 6½% and real repo rates which had risen to 7½%. The Bank was concerned that such a tight policy would lead to a harder landing than necessary in view of the inflation target.

The interest rate reduction entailed some relaxation of the monetary stance. In addition, inflationary expectations had started to rise again because of the depreciation of the króna and the sharp rise in the CPI at the beginning of April. The Bank's policy rate is now under 6% in real terms. However, the differential with abroad has only narrowed slightly and now stands at 6½% for treasury bills and 7½% in terms of interbank market rates. Measured against these criteria, the differential is at a record level, but this is partly explained by the tight liquidity which characterises the money markets at present, as discussed in more detail in the article on financial markets and Central Bank measures. The monetary stance thus continues to be tight.

*Further monetary relaxation depends on the inflation outlook and exchange rate developments*

If the depreciation in recent weeks turns out to be long-lasting, inflation will run higher for some time. This is reflected in the inflation forecast. Continuing pressure on the exchange rate of the króna will hamper further Central Bank interest rate cuts in the near future, even if a decline in economic activity may warrant the easing of monetary policy. The weaker króna is therefore likely to lead to a harder landing than if the króna had remained stable. Hence, the probability that a temporary contraction will accompany measures to bring inflation down from the current rate has risen.