Economic and monetary developments and prospects[1]

Inflation close to target and a growing slack in the economy in the absence of planned large investment projects in aluminium

Inflation continued to slow down over the past three months and is at present only slightly above the Central Bank's inflation target. Core indices show a somewhat higher inflation rate, which is in line with the Central Bank's earlier assessment that underlying inflation was somewhat higher than headline inflation. Since January, the annualized rate of inflation has been within the target and the outlook is for inflation to stay within the target in the course of the whole year as well. The Central Bank expects inflation to move slightly above the target once more in the second half of next year, then be broadly on or below target until the end of 2004. In the forecast large-scale hydropower and power-intensive industrial projects are not assumed to be launched over the period, which would fundamentally change all the results. Also, the forecast is based on the assumptions of a stable exchange rate for the next two years, and negligible output gap or a minor degree of slack over the period. Economic indicators this year suggest that growth has been sluggish but that the economy is past the trough of the contraction. For the first time, the Central Bank is publishing its own macro economic forecast for the next two years, on which, among other things, the inflation forecast is based. National expenditure is estimated to shrink by just over 3% this year, but favourable external trade should prevent year-on-year contraction in GDP. Economic growth is expected to be sluggish next year too, with GDP growing by 1½% and national expenditure by 1%. A minor increase in private consumption is expected next year, following this year's decline which mostly can be attributed to growing slack in the labour market, slower growth in disposable income and a high level of indebtedness among households.

I. Economic developments

The foundation of economic stability has continued to strengthened since the last *Monetary Bulletin* was published in August. Disinflation has continued, external trade has been in balance and most evidence suggests that the downturn in national expenditure is past its trough, although economic growth remains sluggish. This section discusses inflation developments, external conditions of the economy and domestic demand.

1. This article uses data available on November 4, 2002.

Price developments

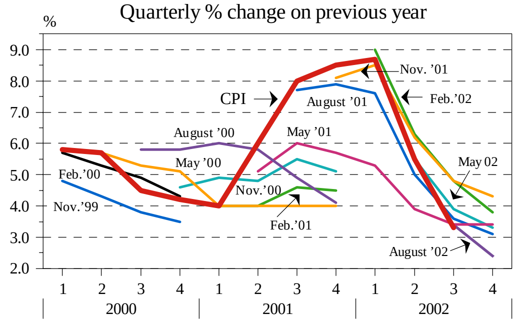
Inflation is close to the Central Bank's target and in line with the August forecast for Q3

In October, the CPI had risen by 2.9% over the preceding year, i.e. close to the Central Bank's 2½% inflation target. In November, Statistics Iceland will commence publication of two core indices. (see later). These indices show an inflation rate roughly 1% higher, which suggests that underlying inflation is somewhat higher than indicated by the headline CPI. In August, the Central Bank forecast a 3.4% rise in the CPI from Q3/2001 to the same period in 2002. In the event the index went up by 3.3%. This is the

Chart 1

CPI and the Central Bank inflation forecast 2000-2002

Quarterly % change on previous year



Sources: Statistics Iceland, Central Bank of Iceland.

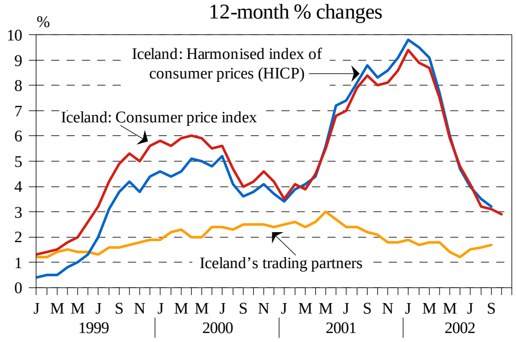
second quarter in a row that the Central Bank's forecast one quarter ahead is almost precisely on the mark.[2]

Rapid disinflation has taken place during the year. Inflation peaked in January when the CPI rise for the preceding twelve months measured 9.4%, in July it dropped below the 4½% tolerance limit for 2002 and in August below the 4% limit which will apply from the beginning of next year. The deviation of the twelve-month inflation rate from the target can primarily be attributed to price increases during the first three months of the period. When these three months disappear in the comparison, the base effect will cause the 12-month rate of inflation to fall. Since

Chart 2

CPI inflation 1999-2002

12-month % changes



Source: Statistics Iceland.

2. Forecasting errors in the Central Bank's inflation forecasts will be discussed in more detail in the first issue of *Monetary Bulletin* next year, as has been done regularly for several years.

the beginning of this year, price stability has been good on the whole. Over the period from January to October the CPI rose by 1.2%, or the equivalent of 1.6% on an annualised basis. A minor seasonal effect over the period may affect the outcome, and the effect of concerted measures to contain price rises in the spring may still be felt. Be that as it may, it seems safe to claim that the rate of inflation within the year has been under the Central Bank target.

Inflation declined among Iceland's main trading partner countries from the New Year to spring, reaching a low of 1.2% in June, while in September it measured 1.7%. Within the European Economic Area (EEA), inflation ran at 1.8% in September. Using the same criteria for measuring inflation as in the EEA, Iceland's figure was 3.2%.

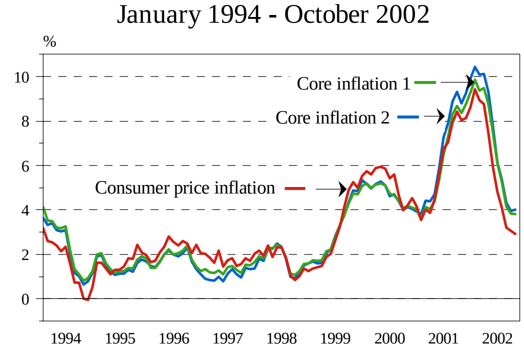
Underlying inflation still substantially above the target

In November, Statistics Iceland will begin publication of two core indices that measure underlying inflation (see detailed discussion in Box 1). Core Index 1, which is the CPI excluding vegetables, fruit, agricultural products and petrol, has risen by 3.8% over the past twelve months, but annualised by only 1.7% during the past six months and 1.9% in the past three months. Core Index 2, which is Core Index 1 excluding public sector services, has risen by 4% over the past twelve months and an annualised 1.4% during the past six months and three months.

Chart 3 shows the inflation since 1994 according to these two core indices and the headline CPI. They

Chart 3

Core inflation and consumer price inflation January 1994 - October 2002



Source: Statistics Iceland.

Box 1 Different measures of core inflation

The joint declaration by the Government of Iceland and the Central Bank of Iceland from March 27, 2001 on an inflation target and a change in the exchange rate policy, states that the Central Bank, in consultation with Statistics Iceland, will construct one or more measure of underlying inflation, which the Bank could use in the implementation of monetary policy. This task has now been completed and, starting with the publication of the Consumer Price Index (CPI) on November 12 this year, Statistics Iceland will publish two new indices, Core Index 1 and Core Index 2. Both are compiled on the same basis as the CPI, with the former excluding prices of vegetables, fruit, agricultural products and petrol, and the other also excluding the prices of public services. Other measures of core inflation, correcting for effects of indirect taxes and subsidies, may also be published at a later date. Such indices would be of unquestionable benefit, but would require a considerable amount of preparatory work and methodological studies.

The components excluded from the two core indices are either volatile, more or less beyond the impact of monetary policy, or reflect relative price changes that are normally undesirable for monetary policy to react to. An article by Thórarinn G. Pétursson elsewhere in the Bulletin discusses the arguments for using measures of core inflation in monetary policy formulation, and viewpoints on their compilation. In the Central Bank's view, using these core inflation measures with the headline CPI measure in the formulation of monetary policy will facilitate it in explaining its policy measures to the government and the general public. Furthermore, they ought to help in anchoring inflation expectations more closely to the underlying inflation trend rather than short-lived price changes. This can reduce fluctuations in output and the policy interest rate which may result from too rigorous a stance by the Bank to keep inflation on target.

It should, however, be underlined that calculation of the core indices does not change the fact that the CPI will remain the formal criterion for the Central Bank's inflation target.

reveal a very similar development over the period as a whole, with the core indices showing broadly the same long-term average rate of inflation as the CPI.

Inflation in recent months is domestic in origin

Since the beginning of the year, most of the main components of the CPI have increased at a rate below the Central Bank's inflation target. There are three exceptions. The annualised rise in the price of petrol amounted to 6.5%, the cost of residential accommodation rose by 6% and private services by 5.3%. Special reasons underlie the rise in petrol prices which are largely beyond the control of domestic economic policy and are therefore not a particular cause for concern as long as the swings in petrol prices remain modest. However, there are grounds for keeping a close watch on developments of the other two components, which constitute almost 40% of the CPI. Both the housing market and various services typically face limited foreign competition, although there are some exceptions. Changes in the exchange rate of the Icelandic króna are therefore less likely to have an impact on prices in those sectors. If the disinflation process does not spread to these components of consumption cost, there is some risk that inflation will rise again when the impact of the appreciation of the króna fades out or if the króna weakens significantly.

The twelve-month rise in the CPI services component has slowed down consistently since it peaked at 10% in March this year. In the beginning of October, however, private sector services had gone up by almost 6% over a year, accounting for roughly half of the rise in the CPI during that period. The rate over the past three months has been somewhat slower, or 4.8% on an annualised basis. This is a slow process of deceleration, but it should gradually reduce price rises in this area in pace with the slowdown in domestic wage increases, which can be expected to have a considerable effect on service prices.

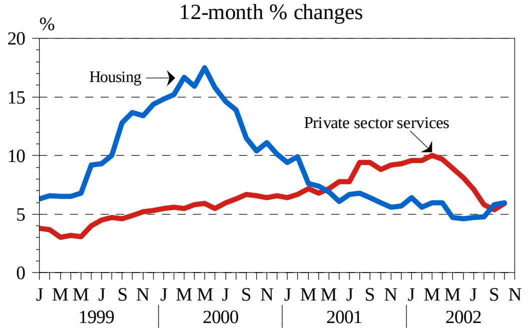
In contrast to private sector services, where slow but gradual disinflation can be discerned, residential accommodation price rises have been gaining momentum in recent months. This is somewhat unexpected in light of the fact that household disposable income adjusted for net borrowing and interest payments probably declined last year, which all things being equal ought to reduce demand for housing.[3] Over the past twelve months the housing component of the CPI has gone up by 6%, while in May the twelve-month rise in market prices of housing, as measured in the CPI, was only 2.8%. Over the past three months housing prices have risen by 2½%, or 10½% on an annualised basis.

The rise in housing inflation in recent months is a noteworty, because it could indicate more robust domestic demand than can be discerned from other indicators. However, the probable reason for the trend is recent structural changes in financing arrangements for the purchase of residential accommodation. Firstly, loan ceilings by the Housing Financing Fund were raised in May last year. Secondly, in the beginning of the third quarter of this year, municipal authorities in the Greater Reykjavík Area were relieved of their obligation to re-purchase apartments allocated to low income families on a preferential basis and the owners of those apartments were allowed to sell their properties at market rates. This caused a pent-up demand for larger dwellings to be released as a new group of sellers and buyers, which previously had little incentive to enter the housing market, boosted housing demand. The size and durability of the impact of these reforms however are uncertain. Thirdly, regulations on supplementary loans provide for special exemptions from the asset and income limits which normally apply. According to information from the Housing Financing Fund, these exemptions have been interpreted loosely.

Chart 4

Consumer prices: Housing and private sector services 1990-2002

12-month % changes



3. Disposable capital refers to disposable income plus net borrowing less interest payments.

Prices of imported goods have declined so far this year despite a rise in petrol prices

The strengthening of the króna during the first half of this year has had a considerable impact on inflation. At its peak on August 7 the króna had appreciated by more than 17% since early November last year and almost 14% since the beginning of this year, but has since weakened by 3.8%. Prices of imported goods have risen by just under 1% over the past twelve months, but gone down by almost 1% on an annualised basis so far this year. The decline in 2002 has occurred despite a rise in petrol prices amounting to an annualised 6.5% since the beginning of the year. Changes in the exchange rate are transmitted fairly quickly to prices of imported food, because the turnover rate in food retailing is relatively high. Prices of imported food have gone down by 3.7% over the past twelve months, by an annualised 12.6% since the beginning of January, and reached a low in August. Besides the strengthening of the króna, a more intense competition among food discount stores may have had some effect, with a new player entering the market in the summer. Over the past two months, imported food prices have risen somewhat again.

Business inflation expectations are around or below the inflation target, but the public expects a higher rate

Inflation expectations among executives and in the financial markets have been well consistent with the inflation target, i.e. around or below 2½%, indicating confidence that the monetary policy target will be attained. However, public expectations seem, as usual, to be shaped by the past rather than by forecasts.

The inflation premium on treasury bonds with a lifetime of 4½ years has been fluctuating between 2.2% and 2.7% since the last was published. On average, the inflation premium was 2.4% over the period and 2.2% towards the end of October. It has therefore mostly been below the Central Bank's 2½% inflation target with the exception of short-lived rises linked to events that may affect the CPI or the montly publication of the index. As a rule the Central Bank's announcements of a cut in the policy interest rate have had little impact on the inflation premium on treasury bonds, which testifies to confidence in the monetary policy.

A survey of financial market experts gave similar results (for further discussion see Box 3). They expected, on average, that inflation next year will be 2.2%. The highest and lowest values were 2.6% and 1.5%, respectively. The lowest expected rise in the CPI over next year, however, was well above the Central Bank's lower tolerance limit.

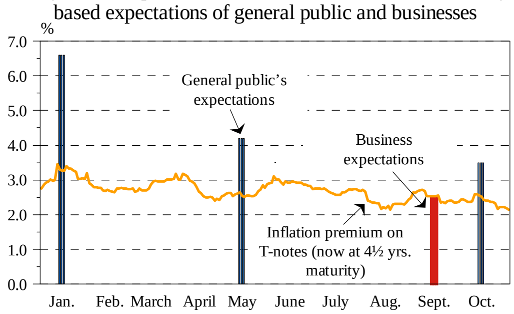
A Gallup poll of expectations and the intentions of Iceland's largest 400 companies (for further discussion see Box 2) asked about the inflation outlook for the next 12 and 24 months. On average, business executives expected the CPI to rise by 2.6% over the next 12 months and 4.9% over the next 24 months, which is equivalent to 2.4% a year.

The Central Bank commissions a survey of the general public's inflation expectations three times a year, most recently this October. According to the survey, the public expected an average inflation rate of 3.5% over the next 12 months. The median was somewhat lower, or 3.2%, i.e. respondents expecting inflation to be higher than 3.2% were equal in number to those expecting lower inflation.[4] Households' inflation expectations have eased somewhat since May, when corresponding figures were an average of 4.2% and a median of 4.0%. The standard deviation in the survey measured 1.3%, much lower than in earlier surveys this year. In January and May the standard deviation was 2.5% and 1.8% respectively, which are among the highest figures since these surveys began in 1997.

Chart 5

Inflation expectations Jan. 3 - Oct. 31, 2002

Daily inflation premium on non-indexed T-notes and survey-based expectations of general public and businesses



Source: Central Bank of Iceland.

External conditions and output

The global economic outlook has deteriorated

The world economic recovery which was widely expected earlier this year has been slower to emerge than was hoped. According to the latest *Consensus Forecasts*,[5] made in October, this year's economic outlook has deteriorated somewhat in the USA and EU since April, but a marginally smaller contraction is forecast in Japan. GDP is on average forecast to grow by 1% in the EU countries, by 2½% in the USA and in Japan GDP is forecast to contract by 1%. Next year's growth prospects have also worsened according to this survey. On average, approximately ½% lower growth is forecast in the USA and ¾% lower in the EU compared with April, leaving growth rates of 3% and 2% respectively. Economic growth in the USA also turned out to be weaker last year than previously estimated, with GDP contracting for three subsequent quarters rather than just one.

Prospects have worsened even more since the spring considering equity market developments or indices of business sentiment or consumer confidence. Q3 witnessed the steepest quarterly equity price slump in the USA since 1987 and European share prices fell by even more. The S&P 500 index had lost roughly half its value since March 2000, the steepest decline for half a century. Equity prices have picked up somewhat in recent weeks, however. Accounting scandals at US corporations and the risk of war in the Persian Gulf contributed to the last wave of decline in equity prices, but disappointing profitability and poorer growth prospects can be seen

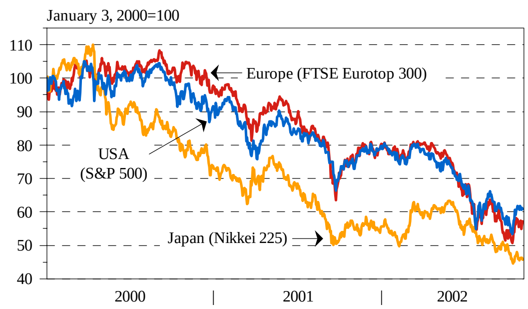
4. The median is probably the best criterion for what most people thought. The average may shift from the median if the expectations of few respondents deviate a lot from the most frequent response.

5. Every month, *Consensus Forecasts* surveys, collects and publishes national economic forecasts by 240 institutions around the world. As a rule the average of these forecasts is considered to provide a better forecast than individual forecasts.

Chart 6

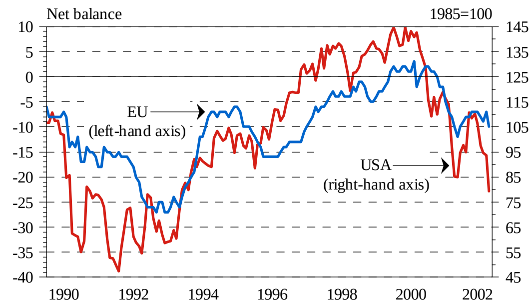
International equity prices

Daily values January 3, 2000 - October 31, 2002



Consumer confidence in USA and EU

Seasonally adjusted, January 1990 - October 2002



Source: EcoWin.

as the underlying cause. This has been detrimental to consumer confidence, which could have significant consequences since it was primarily robust private consumption growth in the USA, UK, France and smaller European nations which softened last year's recession. The recovery in US and European industrial output seems to have come to a halt for the time being in late summer, while the recovery has been stronger in Asia. Much of Latin America is in serious economic crisis.

If the recent trend continues, it could have a negative effect on the external conditions of the Icelandic economy. To a large extent, Iceland's exports comprise food products for private consumption. Because private consumption has continued to grow among many of Iceland's main trading partner countries, in spite of various upheavals, the fairly mild economic recession which hit the world last year had limited effect on Icelandic export prices. If private consumption contracts, or growth slows significantly down, the impact could prove greater; perhaps some signs of this may already be discerned in recent price developments (marine products). Prospects for aluminium prices are on the weaker side and CRU Group Int. forecasts a 10% decline in aluminium prices next year following this year's 7% decrease. In particular, the terms of trade could deteriorate if hostilities in the Gulf compounded the problem with a substantial rise in oil prices. Hence, it could be argued that there are some emerging signs of unfavourable terms of trade developments. Nonetheless, major export markets have been relatively robust to date, e.g. the USA, UK, France and Scandinavia. It should be pointed out that the prices of Iceland's main export products are affected just as much by supply shocks as by demand in the world market. Thus weaker demand does not necessarily imply falling prices. In addition to comparatively robust private consumption in most main trading partner countries, crisis in European agriculture last year and cutbacks in North Sea fishing quotas also sustained the prices of marine products.

Good fish catches and high prices for marine products have created desirable conditions for the fisheries sector

Fish catches have been good so far this year. Total catches over the first nine months of the year were about 10% up compared to the same period in 2001. The greatest increase was in shrimp and shellfish catches, or almost 20%, pelagics were up by 11% and demersals by 4%. Marine product prices are still favourable, notwithstanding downturn in the autumn. Whether the recent decline in marine product prices could herald less favourable developments than in recent years, e.g. in connection with weaker private consumption in trading partner countries, is uncertain. Salt fish prices dropped considerably around the middle of this year but appear to have recovered somewhat in recent weeks. Sluggish US and European markets can partly be attributed to the fact that prices of Icelandic seafood products were already very high relative to other food prices, making demand somewhat susceptible to downswings in trading partner countries' economies. Exporters seem fairly optimistic, however, that marine product prices will stay broadly at the current level. So far this year, marine product prices have on average been approximately 4% higher than year ago.

Export value of marine products in the first nine months of this year was almost 13% more than year ago, of which 7 percentage points are explained by increased volume and just under 5 percentage points by higher prices. Good fish catches in September suggest that marine product exports will also be fairly favourable in October.

Manufacturing output and exports have surged

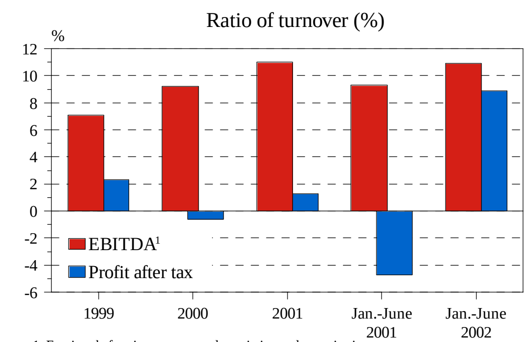
Manufacturing output, both in power-intensive and other industries, has grown substantially this year. Aluminium output experienced a fair amount of growth on account of new technology and better utilisation of production capacity. Despite volume growth of more than 9% so far this year, however, aluminium exports declined slightly in króna terms, due to a 9% drop in prices. Turnover in other export-orientated manufacturing industries has also increased rapidly. In particular these include pharmaceuticals, production of food processing and fish processing equipment, and medical devices. Exports of other industrial goods than aluminium and ferrosilicon amounted to 11% of Iceland's total exports during the first nine months of the year, having risen by almost 50% in volume from year ago. The real exchange rate was highly favourable for exporters in 2001, reaching a historical low late in the year. Despite a reversal of much of last year's exchange rate depreciation, the real exchange rate based on relative CPI in Q3/2002 was still almost 2% below the average for the past 10 years and almost 5% below the average for the past 20 years, while the estimated average appreciation of the króna between the years was 5.5%. Based on relative unit labour costs, the real exchange rate in Q3 was 2.3% above the 10-year average but almost 3% below the average for the past 20 years.

Listed companies' turnover grows, EBITDA remains good and profit has increased substantially

The favourable external conditions described above have been reflected in good profitability by the relevant companies, in addition to many other businesses that are now reaping the fruits of their research, development and marketing activities in recent years. The profitability outlook of publicly listed companies this year is positive, according to forecasts made by analysis departments of financial institutions. Turnover is expected to increase by 12% in real terms, mainly as a result of mergers, takeovers and expansion in overseas markets; EBITDA will, according to the forecasts, be 12% of turnover (was 11% in 2001), profit after tax will be 8% (1.7% in 2001) and net financial items will be slightly positive (but were negative by 4.3% of turnover in 2001). The best outlook is in fisheries where EBITDA of 26% is expected, only a little short of last year's figure. The soaring growth in profit after tax is partly explained by the impact of stronger króna on net-liabilities, and by corporate tax cuts. The current position and prospects of manufacturing companies are also good, with both EBITDA and profit improving from last year. Retail and service businesses, however, are in a weak position, while the situation of transportation and IT companies has greatly improved.

Chart 7

Corporate profits performance 1999-2002

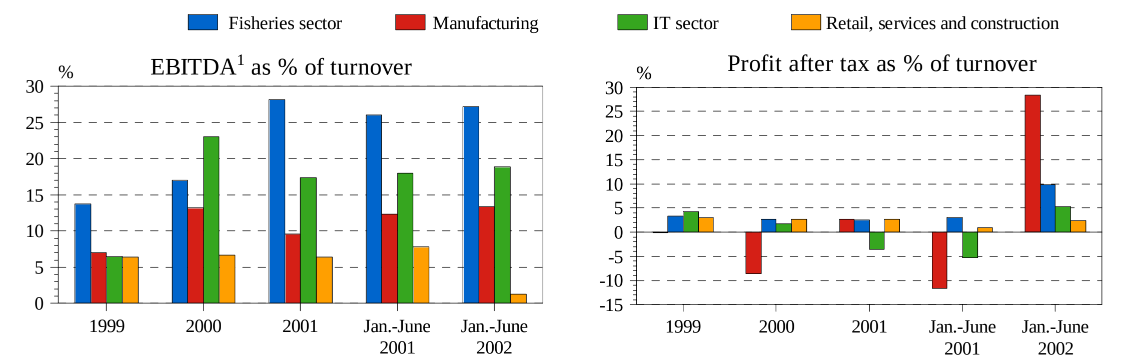


1. Earnings before interest, taxes, depreciation and amortisation.
Source: Central Bank of Iceland.

Only sporadic information on the position and financial performance of unlisted companies is available until well into next year. Some information, however, has been gathered through informal interviews. These have indicated a considerable contraction in retailing, which has been met with rationalisation and redundancies. The outlook looks somewhat brighter than before in wholesaling, e.g. motor vehicle sales. Hotel and catering operations are in a weak position after a poorer summer than was expected. Nevertheless, substantial investment in hotel facilities under construction or on the drawing

Chart 8

Company profits 1999-2002



1. Earnings before interest, taxes, depreciation and amortisation. *Source:* Central Bank of Iceland.

table. Construction contractors have experienced a downturn after the construction boom in the past few years. Hopes for new investment projects in aluminium and hydropower, and robust demand for residential accommodation, have countered the pessimism that predominated at the end of last year and beginning of 2002.

A business survey among 400 Icelandic companies with the largest turnover, conducted by Gallup for the Central Bank and Ministry of Finance (see Box 2), reveals that their executives expect higher profits this year than last year. Smaller enterprises are not as optimistic as the larger ones, however, possibly because they have rationalised less. For example, they do not expect to cut back on staffing levels over the next six months. However, the smallest businesses expect larger increase in turnover than bigger firms and to add workers. All categories of companies expect to invest less this year than in 2001 and the cutback seems largest among medium-size enterprises. Various general indicators suggest that unlisted companies are in a more difficult position than listed ones. The share of profit in gross factor income, for example, is relatively low by historical comparison and there has been a sharp increase in the number of bankruptcies, as outlined in the article on financial stability elsewhere in this issue of *Monetary Bulletin*.

Domestic demand and macroeconomic balance

Domestic demand is still depressed and there is growing slack in the economy despite some recovery of demand

In all likelihood the contraction in domestic demand has bottomed out, although it is still fairly depressed compared with previous years. Various economic indicators suggest a rather anaemic growth in domestic demand, after a sharp contraction at the beginning of the year, which was deeper than had previously been thought.

- According to quarterly national accounts statistics, national expenditure contracted less year-on-year in Q2 than in Q1. However, to a large extent this reflects a considerable downward revision of Q1 figures.
- VAT-related turnover during the first six months of this year was somewhat down -1.7% from corresponding period 2001, in real terms. In the first four months, estimated turnover was marginally higher in real terms than year ago, but turnover in May-June was down by 6.7% in real terms. The pattern in retail turnover is similar. Payment card turnover during the first quarter of this year was down by 7% in real terms from year ago, but in recent months it has been running at a broadly the same level in real terms as in the corresponding period in 2001, and was higher in September.
- The number of new motor vehicle registrations has recently been similar to that a year ago, but at

Box 2 Survey of Icelandic business sentiment

The Central Bank and the Ministry of Finance have commissioned Gallup to conduct a survey of the expectations and intentions of Icelandic business executives. Surveys of this kind have been conducted for years in many countries and are considered a useful indicator of the economic outlook in conjunction with other economic statistics. It is planned to conduct these surveys twice a year in Iceland.

The first survey was made over the period September 4 to October 8. The sample was made up of the 400 businesses with the highest turnover in Iceland and the response rate was 80%. The executives were questioned about their views on the current economy and outlook, the development of the exchange rate, interest rates and prices, together with various details of their own business operations such as sales turnover, inventories and number of employees. The questions were therefore both qualitative and quantitative.

Responses to the qualitative questions are calculated as indices which are the basis of an overall assessment of the findings. In the course of time a trend will be established, and it will become possible to assess the reliability of the survey as a forecasting tool. The table shows responses to selected questions.

More businesses expect their turnover to increase rather than decrease this year. It is interesting to note that the change in average wages is expected to be 1.7% over the next six months, considerably less than negotiated pay rises in the private sector excluding financial institutions, which are just over 3%. This finding can be interpreted as meaning that businesses foresee rationalisation which will lead to a relative reduction in the number of high-paid employees and/or negative wage drift. Rationalisation can also be inferred from the expectation of a higher profit-to-turnover ratio this year than in 2001 despite the fact that product prices will rise by less than inputs.

However, according to the survey turnover is expected to fall year-on-year in real terms this year, and the same goes for investments. An index measuring the increase/decrease in number of employees shows that more businesses plan to cut back rather than take on staff in the near future, and that the number of employees will decrease somewhat during the year. Over the next twelve months, businesses expect inflation to be virtually in line with the Central Bank's inflation target, the exchange rate of the króna to weaken by 1½% and the policy interest rate to be 6.8%.

The Gallup survey in September- October 2002[1]

% unless otherwise indicated (see footnote 1)

Increase/decrease or no change in the number of employees in the next 6 months	86
Change in number of employees Jan. 1- Dec. 31, 2002	-2.4
Change in turnover in real terms between 2001 and 2002	-1.6
Change in average wages in next 6 months	1.7
Change in product prices in next 6 months[2]	0.8
Change in input prices in next 6 months[3]	1.7
The Central Bank policy interest rate 12 months hence	6.8
Inflation over next 12 months	2.6
Change in exchange rate of króna in next 12 months	-1.5

1. The table indicates percentage changes except for interest rates (percentages) and the change in number of employees, which is indicated by an index number. The index values are in the range 0 - 200. An index value close to 100 indicates an equal number of positive and negative responses.
2. Annual change: 1.6%.
3. Annual change: 3.4%.

the same time in 2001, the number of new registrations had more or less bottomed out, in seasonally adjusted terms.

- Cement sales have also rallied somewhat, with a considerable amount of activity in residential property construction and even, despite sluggish sales, in commercial real estate.
- Import volume in the first nine months of the year was down by 5% from the same period in 2001. This is a somewhat smaller decline than earlier in the year, and motor vehicle imports, for example, have picked up in recent months. Seasonally adjusted merchandise imports, excluding vessels and aircraft, have remained constant for the past three months, but are slightly up from year ago.

- VAT receipts so far this year are at broadly the same level in real terms as during the corresponding period in 2001. In the period March-September, when receipts primarily reflect consumption in 2002, VAT receipt rose year on year 3% in real terms, but the year-on-year increase diminished from summer to autumn. PAYE and national insurance receipts were 3.1% higher in real terms than a year before. Taxes and excise on imports are also picking up. Over the past twelve months they were 13%-20% down in real terms compared with the previous twelve month period, but in the past two months they were fractionally higher in real terms than year ago.
- The slowdown in twelve-month lending growth came to a halt in the spring, has fluctuated in the range 2-3% since then and was 2½% at the end of September. After eliminating the impact of exchange rate changes and price indexation, twelve-month growth of lending at the end of September was around 6% and had increased considerably since March. Lending has increased somewhat in real terms in recent months, but is marginally less in real terms than year ago.
- The residential housing market has been unexpectedly vigorous. Multi-residential accommodation prices in the Greater Reykjavík Area went up by a fair amount in the summer. Trading in older housing is brisk, but the upswing in sales of new housing which began earlier in the year has been tailing off.
- Investment in other areas seems sluggish and there is little likelihood that this will change in the near future.
- A steady increase in seasonally adjusted unemployment is a clear sign of slow demand growth.

The following is a more detailed discussion of the conditions in several important areas of the economy, which give some indications about demand conditions, i.e. in the labour market, asset markets, the public sector, the credit system and among households.

Business investment contracts, but the construction of commercial premises and residential housing is still brisk

After a sharp upswing in 1996-1998 and 2000, business investment contracted last year and apparently continued to do so in the current year. This is reflected in trade statistics, which shows sharp contraction in imports of investment goods, as mentioned above. An ad hoc survey of major fisheries companies suggests scant investment in the fisheries sector this year, probably only 2½-3 b.kr., which is likely to shrink even further next year. In the transportation sector, investments have been made in aircraft and vessels this year for 6 b.kr., but there are no known large-scale investment plans for 2003. Prices of commercial real estate are on the decrease, as supply remains buoyant after a construction boom in the past few years. A sharp decline in investment could have been expected in this field in the near future, but indicators of recently commenced buildings (pile-drivings) suggest substantial activity is in this field still. The construction of Eimskip's warehouse distribution centre, which is expected to cost 2 b.kr., overshadows other building projects. Ambitious hotel construction plans have also been made for this year and the next. Such investment is expected to amount to 5½-6 b.kr. in 2002 and 2003. After a massive increase in retail and service space in recent years, a significant contraction can be expected in the near future. There are also prospects for less industrial investment. Investment in residential housing has been unexpectedly large, given that domestic demand is on the decrease. The outlook is for such investment to remain at least at its current level. Investment is discussed in more detail later in this article.

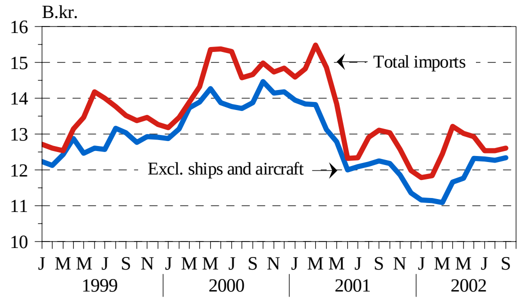
The contraction in merchandise imports bottomed in the second half of 2001 but the recovery is weak

Over the first nine months, merchandise imports, measured at constant exchange rates, had contracted by 6½% from the corresponding period the preceding year and by more than 5% in volume terms. The year-on-year contraction has been gradually reduced in the course of the year. It measured 10½% during the first fourth months and even more at the end of 2001. Seasonally adjusted imports went up quite considerably in April, May and June and have been

Chart 9

Merchandise imports at fixed prices

Seasonally adjusted, 3-month moving average



Sources: Statistics Iceland and Central Bank of Iceland.

fairly stable since then. The volume of merchandise imports excluding volatile items over the period January-September was down by 4% from year ago. The main factor at work there was a 20% drop in the volume of imported investment goods, while imports of consumer goods were down by almost 4%. Consumer goods imports seem to have picked up over the past few months, e.g. motor vehicle imports. They were down by 6% in the first half of the year, but more than 10% in the first four months. There was some growth in imports of industrial inputs, in particular as a result of stepped-up aluminium production.

Rising unemployment has brought down wage drift

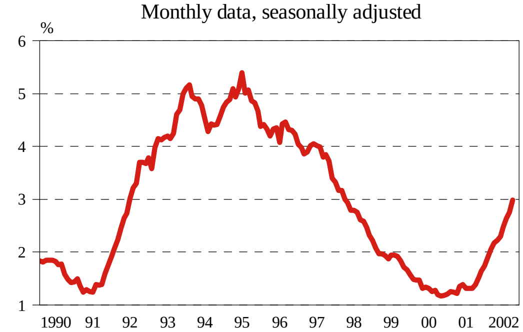
Growing slack in the labour market has become increasingly visible in recent months. Registered unemployment was 2.2% in September, reflecting seasonal drop in the summer months, but seasonally adjusted unemployment has been rising continuously since the middle of last year, and stood at 3% in September, the highest since March 1998. In the regions the seasonal drop in unemployment was visible in summer, but in the Greater Reykjavík Area this was hardly discernible.

Mounting joblessness has seen an increase in the number of long-term unemployed, i.e. those who have been without work for six months or more. In September, 28% of unemployed had been without work for six months or more, while the ratio in the corresponding period last year was 23%. Normally, long-term unemployment in the Greater Reykjavík Area increases over the winter months and into the summer, after which long term unemployment drops again. This seasonal fluctuation is not visible this year and the pattern is similar to 1992 when long-term unemployment increased significantly for the whole year.

Chart 10

Unemployment 1990-2002

Monthly data, seasonally adjusted



Sources: Directorate of Labour, Central Bank of Iceland.

Anticipated changes in staffing in the coming six months, according to the business survey, suggest that unemployment will keep increasing. The majority of respondents in the survey, or 61%, expect broadly unchanged number of staff from the middle of the year, 22% expect a reduction and only 17% expect an increase. There is more of a tendency to cut back on staff in the regions, in the fisheries, transportation and tourism sectors and among larger enterprises. However, industrial and manufacturing companies and smaller enterprises foresee having rather more employees in the coming New Year compared with this September. According to a Gallup poll on consumer confidence, the households' sentiment towards the employment situation fell between September and October from 98.8 to 78.4 points, its lowest value since January.

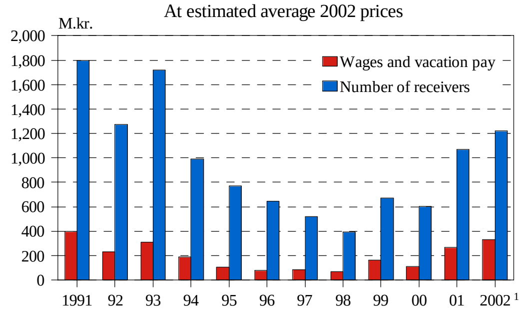
The demand for labour has weakened significantly. The average number of vacancies at employment agencies dropped from 595 in the first nine months of 2001 to 242 in the corresponding period this year, which is similar as the average in 1999. Some decline has also been observed in the number of work permits issued this year compared to last year, but their composition has changed noticeably. In 2000 the majority of issued work permits, or 60%, were new ones, while so far this year, renewals account for a similar percentage. Most work permits are granted for jobs in fish processing, cleaning, kitchen duties and healthcare, but the number of permits for jobs in construction and other industries has declined substantially. Certain types of job still seem difficult to fill despite mounting unemployment. Fewer workers have also found jobs in Iceland through European Economic Area agencies, at the same time as growing numbers of Icelanders seek work abroad through EEA agencies in Iceland.

Outlays from the Wage Guarantee Fund have increased significantly in recent years to meet wages and vacation pay which are in arrears, and a growing number of wage earners receive payments from the Fund.[6] The number of workers which had received payments from the Fund by the beginning of November exceeded the number of recipients during the whole of last year, and the same applies to its outlays on wages (measured at 2002 prices). Further increase is expected for the remainder of this year. If the Fund's assumptions hold good, the number of wage earners receiving payments from the Fund this year will be the highest for any year over the past decade apart from 1991 and 1993.

Chart 11

Outlays from the Wage Guarantee Fund (wages and vacation pay) 1991-2002

At estimated average 2002 prices



1. Until November 4, 2002. *Source*: Wage Guarantee Fund.

Wage drift has slowed down markedly in the private sector excluding financial institutions during the year. In Q3 wage drift measured 0.3% from the preceding quarter, or the same amount as in Q2. Figures from the Institute of Labour Market Research for wage changes from Q1/2001 to the same period this year show roughly the same result as the Statistics Iceland wage index. Wage drift was 1.2% in Q3/2002, but 3.5% during the same quarter last year. Because inflation has braked sharply during the year, private sector real wages have gone up in the past two quarters despite the lower rate of wage drift, after declining for three successive quarters. In the private sector excluding financial institutions the outlook is for a 5-6% wage increase between 2001 and 2002, while wages of public sector and bank employees will probably go up by 9-10%. This means that, on average, private sector real wages will remain virtually unchanged between the years, while wage elsewhere will increase considerably in excess of inflation.

Household disposable income will grow slowly this year

While real wages will on average grow slightly year-on-year, other factors will hold back the growth of real disposable income. Unemployment has risen during the year and the outlook is that it will continue to do so next year. Receipts of personal property tax and income tax this year have increased by 9% from year ago: The tax-free limit went up by 3.6%, i.e. by less than wages on average, and the maximum tax-free asset limit for personal property tax rose by 20%, partly reflecting the major hike in real estate valuations at the end of 2001. Municipal tax rates have changed little and local government tax receipts have risen by roughly 8-10% between the years. Real household earnings from assets have also decreased with lower dividend payments. On balance, it seems reasonable to conclude that real disposable income per capita will increase only slightly between 2001 and 2002.[7]

Appreciation of the króna caused a slight reduction in total liabilities towards the credit system in Q2

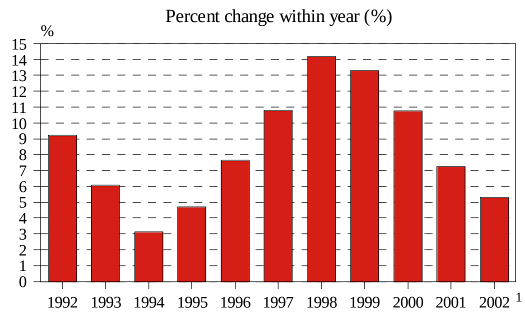
Credit system lending decreased substantially in the first half of the year; data for total lending to domestic parties by credit institutions and foreign parties are now available until mid-year. When the figures

6. The Wage Guarantee Fund's outlays on account of each wage earner paid by it may depend on his previous wages, the number of months paid and whether vacation pay in arrears is involved too.

7. In October, the Ministry of Finance forecast a 1½% increase per capita.

have been adjusted for changes in the CPI and the exchange rate, twelve-month lending growth until the end of June amounted to just over 5%. This is a similar growth rate as during the period 1993-1996, when the economy was fairly depressed. In Q2, apparently for the first time, the total debt of residents with domestic financial institutions and abroad (i.e. with the credit system) actually decreased slightly from the end of the preceding quarter, or by 1.7% in terms of constant prices. This minor decrease was caused solely by a 6% appreciation of the króna from the end of March to the end of June. Consequently, foreign-denominated liabilities of residents, i.e. households, corporations and the public sector, to the credit system and abroad declined to the tune of almost 40 b.kr., enough to outweigh the underlying 10-15 b.kr. increase in liabilities which would have been recorded had the exchange rate remained constant.

Chart 12
Weighted increase in credit system lending at fixed prices and exchange rates 1992-2002

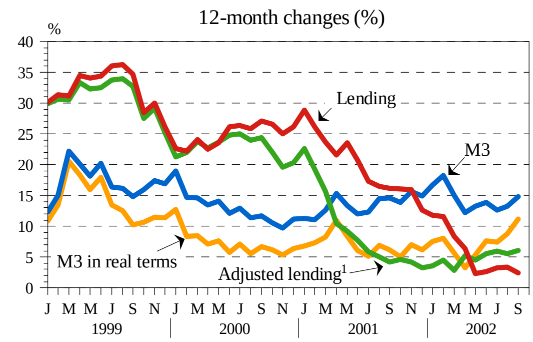


1. June 2001 - June 2002. *Source:* Central Bank of Iceland.

Figures for the entire credit system are available only until the end of June. The most important sector of the credit system are deposit money banks (DMBs) and investment funds, including the Housing Financing Fund. Their lending accounts for two-thirds of the total debt of households, corporations and the public sector to the credit system.[8] Information on this sector of the credit system is available until the end of August. As in the credit system as a whole, lending growth of this sector has slowed down, but not contracted. In the past few months lending growth seems to have shifted to deposit money banks and investment credit funds from other sections of the financial system. At the end of June, lending by these core credit institutions to households, corporations and the public sector increased by 6.2% from year ago at constant prices and exchange rates, while total lending in the credit system increased by 5%, but by August the annual growth rate was down to just over 5%. From the beginning of the year to the end of August, lending by these institutions to corporations grew by almost 4% measured in constant prices and exchange rates, to public sector bodies by 6% and to individuals by almost 2%.[9]

Growth in lending by pension funds to individuals has slowed down since last year, but annual growth is still running high, in the range 10-15% in real terms over recent months compared with roughly one-quarter in the first half of last year. Additional possibilities for borrowing from the Housing Financing Fund could play a part in the slowdown experienced by pension funds.[10]

Chart 13
Growth of M3 and bank domestic lending



1. Adjusted for automatic increases due to exchange rate- and CPI-indexation.
Source: Central Bank of Iceland.

8. In the past couple of years, major credit institutions have shifted from the investment credit fund category and are at present classified as deposit money banks or commercial banks. FBA was the first, when it merged with Íslandsbanki, and in the beginning of this year Kaupthing was granted a licence to operate as a deposit money bank. Thus in order to get consistent time series, the activities of these two categories have been examined jointly. Consistent data are available until the end of August.

9. Market bonds and notes are included with lending here. The small increase in debt by individuals is partly because August is a major month for collections by the Housing Financing Fund, the households' largest creditor.

Data on lending by DMBs are available until the end of September. The deceleration in twelve-month lending growth came to a halt in the spring, fluctuated in the range of 2-3% and was 2½% at the end of September. After adjusting for valuation changes of exchange rate linked and CPI indexed debt, DMB lending growth has picked up since March and measured around 6% until the end of September, just over twice as much as in March. In real terms, lending has shown some increase in recent months, but was slightly down from year before at the end of September.

The growth of monetary aggregates has hardly slowed down

Monetary aggregates have sometimes played an important role in assessing the state of the economy or even forecasting inflation. Interpretation of such indicators, however, is invariably difficult. Contrary to credit growth, the growth of M3 has not decelerated significantly from year ago. By the end of September, M3 had grown by 14.7% over the preceding twelve months, the same rate of growth as in September last year. After adjustment for inflation, which was had declined in the latter period, growth of M3 had actually risen 11% in September 2002 from 6% year ago. Such a high rate of growth might be a cause for concern, as it is not compatible with price stability in the long run. However, the high growth rate might to some extent be linked to a greater propensity to save, which has found a temporary channel through deposits in the banking system. Deposits in money market accounts have increased substantially, but is not necessarily an evidence of monetary expansion like, for example, an increase in mutual funds deposits. Indeed, several developed countries have experienced high rate of monetary growth in recent years.

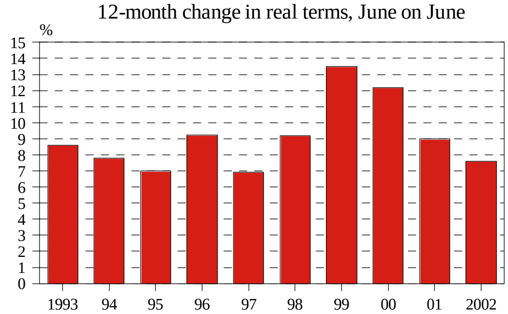
Household debt continues to grow

Household debt has continued to rise this year, by 21 b.kr. or 3% in real terms from the beginning of the year until the end of June, the latest date for which data for the entire credit system is available. Apparently the lion's share of this debt growth is in the form of long-term liabilities, more specifically with investment credit funds (13 b.kr. at constant prices), primarily the Housing Financing Fund, and with pension funds (2.5 b.kr.). Bank debts of individuals rose by 2.5 b.kr. in the course of that six-month period, measured at December 2001 prices.

Chart 14

Household debt with the credit system 1993-2002

12-month change in real terms, June on June



Source: Central Bank of Iceland.

Despite considerable household debt accumulation, the pace of growth has slowed down in 1999 and 2000. The turnaround is possibly greater than would appear at first sight, given the increased scope for borrowing from the Housing Financing Fund and pension funds. Households' debt with the credit system at the end of last year is estimated at 170% of their disposable income. According to data for household debt in June this ratio will rise further this year, since real disposable income is only expected to rise modestly while liabilities grew by more than 7% in real terms over the past twelve months. Private consumption in recent years has to a large extent been financed with credit which has boosted households' disposable income over and above their regular income after tax. When the growth rate of debt slows down, the financial resources households have at their disposal drops, which explains the contraction in private consumption in 2001 despite an increase of 1½% in disposable income per capita. This year, however, households may have managed to distribute their debt service burdens over a longer period, which may offset the impact of the slow down in debt accumulation.

10. Various pension funds are known to have increased their collateral requirements. Countering this, however, loan ceilings have been raised in many cases.

Interest rates have declined following cuts in the policy rate

Since the publication of the in August, the Central Bank has cut its policy interest rate four times, by a total of 1.7 percentage points. The Bank's policy interest rate was 6.8% in the beginning of November. Money market interest rates have come down in pace with the Central Bank policy rate after the market became more liquid. Since mid-summer, three-month money market interest rates have been lower than the Central Bank policy rate. In the wake of policy rate cuts, interest rates on both non-indexed and indexed bonds have also come down. Non-indexed rates have come down by more than indexed interest rates, as can be expected at a time of decreasing inflation expectations. The interest rate on treasury bonds with an 11-year lifetime, for example, was 8.2% on August 1, but has been around 7½% recently. Interest on government bonds with the same lifetime was 5.3% on August 1 and has recently been around 5%. Non-indexed bank rates have dropped by an average of 1.5%, while rates on indexed bank loans have changed little. A more detailed discussion of interest rate developments is given in the next article in this issue of *Monetary Bulletin*.

Domestic equity price developments are at a tangent to the pattern in foreign markets

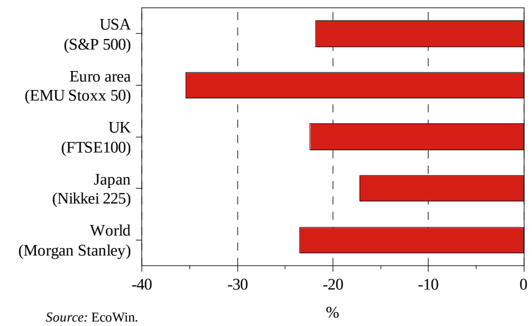
Prices of shares in Icelandic companies have diverged significantly from the pattern in foreign markets. The ICEX Main List has gone up by more than one-third since September last year, and by around 17% since the beginning of this year. Prices rose most in Q1/2002. Pharmaceutical company equities have gone up by two-thirds, transportation companies by one-third and fisheries companies by 28% over the past twelve months. Even share prices in IT companies, which have shown one of the lowest rates of increase, have been climbing in recent months. Despite some reduction in the number of listed companies, their total market capitalisation has grown and currently amounts to more than 500 b.kr. Equity trading has increased in step with rising prices. Turnover in September reached a record and the Stock Exchange is also heading for a record annual trading volume this year.

The favourable developments in the domestic equity market is interesting in light of the slump in foreign equity markets. Domestic share prices moved in line with foreign ones over the period 1998-2000, but began to diverge last year. In fact, foreign equity indices that recently have outperform the Icelandic ones are few. Apparently, the success of the domestic equity market can in many respects be explained by the favourable returns shown by listed domestic companies and optimism about their ongoing growth. EBITDA in most sectors has been strong or has increased from last year, and profit after tax has multiplied. According to finance companies' forecasts, the outlook is for a fourfold to fivefold increase in net earnings of listed companies between 2001 and 2002.

Chart 15

International equity prices

Change December 31, 2001 - October 25, 2002



Source: EcoWin.

Nonetheless, it is important to realise that the Icelandic equity market is less diversified than its foreign counterparts, and has a different composition. Some three-quarters of the firms in the ICEX-15 index comprises three types of company, i.e. financial institutions, which have a weight of just under half of the index, fisheries companies and pharmaceuticals companies. Among the shares that have particularly pulled down foreign equity indices are the IT and telecommunications sectors. As a result of the failure to privatise Iceland Telecom at the planned time, the sector did not weigh heavily in the Icelandic indices when shares prices in technology companies plunged. Icelandic financial institutions have been producing good results recently, unlike in many other countries. Banks managed to sustain good rate of return last year, partly as a result of having net indexed assets in excess of liabilities, which caused them to profit from high inflation.

Their interest income has also grown, and substantial gains have been realised on sales of assets and on other financial activities than traditional banking operations. Considerable scope for rationalisation probably still remains among financial institutions, through expansion, penetration of foreign markets, mergers or cost consolidation.

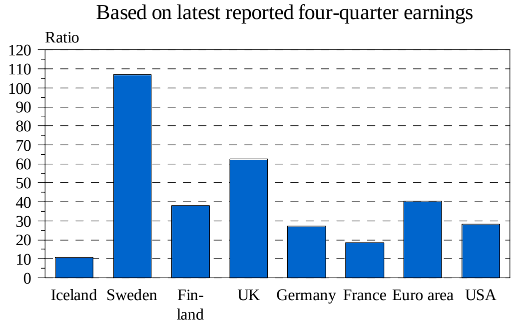
Expectations of higher profitability through rationalisation and mergers are also high in other sectors. For example, pharmaceuticals company share prices have soared as exports of generic drugs have surged, mergers and successful foreign investments. Opportunities for export expansion are generally deemed to be good on the markets. The fisheries sector has experienced particularly strong EBITDA results due to favourable exchange rates and export prices. Substantial scope also exists for rationalisation and growth through mergers and acquisitions, which enhances growth potential of publicly listed companies beyond the potential of the sector as a whole. The position of some other listed companies is not as favourable. Nonetheless, the sectors that have faced greatest difficulties recently, i.e. transportation and telecommunications companies, have recovered somewhat.

Although Icelandic equity price developments have been out of synch with the depressed foreign markets, Iceland's P/E ratio is lower than in most countries, if calculated on the basis of profit over the past year. However, a P/E ratio calculated on the basis of historical data do not provide a categorical answer to the question whether shares are reasonably priced or not. The crucial point is whether share priced are in line with realistic expectations of profitability in the long term. This is always subject to great uncertainty.

Chart 16

P/E ratios in Iceland and selected countries

Based on latest reported four-quarter earnings



Sources: Bloomberg, EcoWin, Iceland Stock Exchange.

To some extent, the recent price increases may be demand-driven, e.g. from pension funds. In part, the recent appreciation in equity prices may stem from falling interest rates on bonds following the cuts in the Central Bank's policy rate. Declining yields on short-term monetary assets, where investors have sought safe haven during times of uncertainty, and unfavourable developments in foreign equity markets, may have encouraged domestic investors' to invest in domestic equities. Virtually no direct links exist between the Icelandic equity market and foreign ones, e.g. through the activities of multinationals. Thus the Icelandic market is less likely to be infected by upheavals in the international capital markets than otherwise. From the beginning of August to the end of October, the ICEX Main List went up by 3-4%.

Treasury balance for January to September worse than year ago, and will probably deteriorate for the year as a whole

The fiscal balance for the first nine months of the year was significantly worse than during the corresponding period last year. Revenues were 6.2% higher, but only 3.7% higher if revenues from the privatisation of a 20% share in Landsbanki in the summer are excluded. Outlays rose by 11.6% during the same period, or by 12% excluding interest payments, which tend to be clustered around the redemption of government bonds. Expenditures in excess of receipts amounted to 7 b.kr. until the end of September last year, but are at present over 16 b.kr. and would have been closer to 20 b.kr. in the absence of realised gains on the privatisation of shares in Landsbanki this summer. However, the treasury has enjoyed much higher amortisation of outstanding debt and asset sales than in 2001. Hence, net borrowing requirement has changed less.

On the basis of revenues and expenditure development to date, it seems unlikely that the result will be as favourable this year as last year. Outlays have grown quite strongly year-on-year on cash basis, and it is unlikely that additional revenues from any budget overshoot will suffice to make up for that. This

Table 1 Treasury revenues and expenditures 2001-2003

Billion krónur	*Outcome* *2001*	*Budget* *2002*	*Estimate*[1] *2002*	*% change from budget* *2002*	*Draft budget* *2003*	*% change from 2002 (estimate)* *2003*
Revenues	237.4	257.9	263.6	2.2	264.0	0.2
Expenditures	228.7	239.4	246.4	2.9	253.3	2.8
Balance	8.6	18.5	17.2	.	10.7	.
Revenues excluding asset sales	236.7	242.4	249.1	2.8	255.5	2.5
Adjusted expenditures [2]	229.8	240.8	247.9	3.0	255.3	3.0
Adjusted balance [3]	6.5	1.6	1.2	.	0.2	.
% of GDP						
Revenues excluding asset sales	31.8	30.8	31.7	.	31.3	.
Adjusted expenditures	30.9	30.6	31.5	.	31.3	.
Adjusted balance	0.9	0.2	0.2	.	0.0	.

1. Treasury budget and draft Supplementary Budget. 2. Pension charges and tax claim write-offs adjusted towards long-term average. 3. Revenues excluding asset sales in excess of revised expenditures.

applies in particular to personal income tax. According to the budget and supplementary budget, income tax receipts were supposed to increase by 17% between 2001 and 2002, but so far this year the increase is less than 10%. Health expenditures also appear to be heading way past the budgeted figures.

Estimates in the budget for income tax revenues next year look rather optimistic, while other tax revenues are expected to increase in fairly close step with the rise in tax bases according to the treasury's national economic forecast. Shortcomings this year could therefore easily herald a weaker fiscal position next year. Tax reductions and new outlays (parental leave at childbirth, child allowance and health service expenditures) in recent times have greatly eroded the strengthening of the fiscal position which took place last decade.

According to the draft Supplementary Budget for 2002, receipts will overshoot the budget figures by just over 2% and outlays by just under 3%, while the fiscal balance will be close to target at 17 b.kr. This result is only slightly lower than originally budgeted.

Privatisation revenues will approach at least 20 b.kr., as assumed in the budget and parliamentary bills presented this autumn. These are not proper revenues, but rather asset movements. The treasury's monetary gains on the sale hinge upon whether interest saved due to lower debt, amortised with the proceedings, outweigh the dividend that would otherwise be received. To assess the underlying fiscal balance it is therefore reasonable to subtract the sale of assets on the income side and also to adjust expenditures for tax write-offs and pension liability movements, which are highly volatile. The adjustment does not have a large impact on the estimated deviations from this year's budget, but the adjusted balance is patently worse than last year. The table on this page also shows that receipts excluding sales of assets represent a similar proportion of GDP in 2001 and 2002, while outlays grow by more, causing the balance to deteriorate. In particular it is operating outlays and health service costs which cause a rise in total expenditures. According to estimates this autumn, the rise in adjusted outlays is heading for 5 b.kr. in real terms this year, deflated with GDP deflator, while operating expenditures plus various heath service costs outstrip price rises by 7 b.kr.

General revenues remain unchanged as a proportion of GDP, but grow at widely varying rates depending on the revenue base. Personal income tax receipts are estimated to rise by 4½ b.kr. in real terms between 2001 and 2002, deflated with GDP deflator, but there will be a 1 b.kr. decrease in receipts from imports and consumption taxes other than VAT, and a drop of almost 3 b.kr. in real terms in corporate income tax and net wealth tax. The last-mentioned reduction is caused both by deteriorating profitability of businesses in 2001 compared to 2000 and by higher tax-free limits for personal net worth tax. Due to asset sales and large-scale collection of outstanding loans, a substantial surplus is projected for the credit budget, or 20 b.kr., even though the regular and adjusted balances are close to zero.

Regular fiscal balance is close to zero in 2003 draft budget

According to the budget proposal for 2003, treasury revenues should remain unchanged between the years at 264 b.kr., but outlays go up by just under 3% to 253 b.kr. The surplus is estimated at 10.7 b.kr., or 6.5 b.kr. less than this year. The difference is explained almost entirely by less revenue from asset sales. Receipts excluding asset sales are projected to go up by 2½% in nominal terms, which implies a small overall increase in real terms, but the growth varies depending on the tax base. Revised expenditures, i.e. excluding irregular fluctuation in depreciation items and booked pension fund liabilities, should rise marginally faster, at 3%, i.e. almost 1% in excess of the GDP deflator.

According to the budget proposal, an adjusted or regular fiscal balance of around zero can be expected. This outcome may be considered acceptable given the forecast economic slack next year. An estimated 12 b.kr. from the sale of assets and 8 b.kr. net collection of loans granted should leave the treasury with a very favourable payments flow. It is aiming for a 10 b.kr. surplus on the credit budget, to be used to prepay loans and to strengthen reserves with the Central Bank.

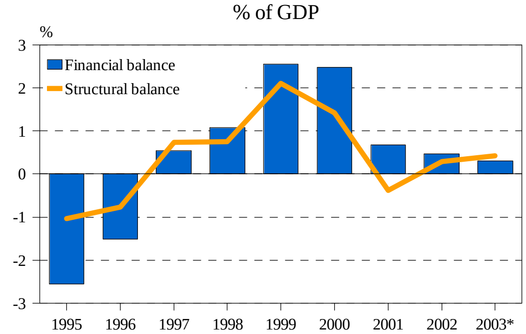
Cyclically adjusted fiscal balance improves slightly this year

Treasury tax collection and welfare payments intrinsically tend to produce an improvement in the fiscal balance during an upswing. The impact of the business cycle on the fiscal balance is estimated to have been in the range -1½% to +1½% of GDP in recent cycles. To assess the impact of the business cycle on the fiscal balance, revenues and expenditure figures using definitions based on the United Nations System of National Accounts are normally applied. In many ways these resemble the adjusted revenues and outlays described above, i.e. are adjusted for the same irregular items. Fairly consistent time-series are available much further back than other public sector statistical series. According to the SNA definition, the fiscal surplus decreased from 2½% of GDP in 2000 to 0.7% in 2001 and is heading for 0.5% this year and 0.3% next year. These figures, however, reflect the fact that the central government gained revenue from the strong national expenditure and output growth in 2000 and 2001, and low unemployment which resulted in low benefit payments. Chart 17 shows the cyclically adjusted fiscal balance. It deteriorated by 1.8% of GDP between 2000 and 2001, but according to this year's forecasts the fiscal balance will improve by 0.7% of GDP, or 6 b.kr. this year, because it deteriorates by less than the economic downturn would suggest. A minor improvement will take place in cyclically adjusted terms next year, based on the budget and Central Bank growth forecast, with economic growth remaining sluggish, but the fiscal balance unchanged.

Chart 17

Treasury finances 1995-2003

% of GDP



Sources: Ministry of Finance, Statistics Iceland, Central Bank of Iceland.

Not only GDP growth has had an impact on the fiscal position. During the upswing, national expenditure by far outstripped GDP, leading to a large current account deficit. Since the treasury earns substantial revenues from consumer spending, and in particular from imports of motor vehicles and other consumer durables, the current account deficit had a positive effect on the fiscal result.

II. Output and inflation forecast

Assuming an unchanged monetary policy stance, a stable exchange rate of the króna and no power-intensive industrial development projects, the outlook is for the Central Bank's 2½% inflation target to be attained in the final quarter of this year. The prospects are for virtually stagnant output this year but a gradual recovery in the in the second half of the forecast period. National expenditure growth will, however, be sluggish throughout the forecast period. Likewise, unemployment will continue increasing into the second half of the forecast period, and will be some way beyond the level compatible with a stable rate of inflation over the medium term. Demand conditions over the next two years should therefore contribute to maintaining a low rate of inflation during the forecasting period. Temporary factors will probably cause inflation to rise above the target in a year's time, although it will always stay within the upper tolerance limit. Two years hence the impact of these temporary factors will have vanished and the outlook is for inflation to have declined just below the target by then. Uncertainty in the forecast is considered to be fairly symmetrical, i.e. the probability that inflation will exceed the forecast for the next two years is broadly the same as the likelihood of lower than forecast inflation.

Demand and output

In this issue of *Monetary Bulletin*, the Central Bank of Iceland publishes its own macroeconomic forecast for the first time. Among the key assumptions of the forecast are that the volume of marine exports will grow by 4% in 2002, and by 3% in 2003. Prices of marine products in foreign currency are expected to rise by 3% during the current year, but fall by 1½% next year. Aluminium exports are expected to grow by 7% in 2002 and 1½% in 2003. Aluminium prices have been falling recently in terms foreign currency and the outlook is that they will continue to do so. In the forecast it is assumed that aluminium prices, denominated in foreign currencies, will fall by 7% this year and almost 11% next year. The forecast is based on broadly the same assumptions for the volume changes in the main export products as applied by the Ministry of Finance in its forecast this autumn, but rather less favourable developments of export prices.

Outlook for stagnant output growth in the current year

In the wake of robust growth in recent years, the outlook is for virtually none during the current year. This is a part of the necessary adjustment of the economy after a lengthy period of overheating. Although GDP will be stagnant in real terms, there will be a considerable shift in its composition. Thus private consumption is expected to contract by around 1½% and fixed investment by 14%, even though investment in residential housing will still continue to grow. On the whole, national expenditure are projected to contract by 3¼% during the year. The contraction in national expenditure this and last year is quite substantial and heralds a major turnaround from the growth recorded for the four preceding years. Exports are projected grow by 5½% while imports will shrink by 3¼%. Output will, as stated above, remain virtually unchanged.

Economic growth will recover gradually over the forecast horizon

Output growth will be small next year, or 1½%. Growth in national expenditure will be likewise be sluggish. Over the forecast horizon, output growth is expected to improve somewhat. In 2004, GDP is forecast to increase by 3% and national expenditure by 2½%. According to the forecast, output growth this year will be stronger than assumed in the last Central Bank inflation forecast, but weaker for the coming two years than in the National Economic Institute forecast on which the inflation forecast published in August was more or less based.

Unemployment will increase next year but decline again in the course of 2004

As stated above, increasing slack is being felt in the labour market. Seasonally adjusted unemployment has been growing steadily over the past year and had reached 3% in September. The forecast assumes that unemployment will continue to increase next year and will be 3¼% on average, then fall again in the course of 2004 when it will average roughly 3%. This is a somewhat higher rate of unemployment than assumed in the last Central Bank inflation forecast. According to the forecast, unemployment next year could reach a higher level than is compatible with a stable rate of inflation, but come close to that level in the second half of 2004.

Private consumption will shrink this year but grow slowly next year

Private consumption is forecast to fall by 1½% this year. Next year private consumption is expected to grow slightly, or by ½%, and 1¼% in 2004. Private consumption developments reflect the slowing growth in disposable income, which in turn reflects the deteriorating employment over the coming two years. The estimated increase in real disposable income per capita is negligible this year but will be 1% in 2003 and 1½% in 2004.

Fixed investment growth sluggish next year but recovers in 2004

Investment is forecast to grow at a sluggish 1% rate in 2003, but gain some momentum in 2004. Of all the components of national expenditure, business investment is most sensitive to the business cycle and is expected to begin to recover in 2004 when it will increase by more than 10%. Investment in residential housing, on the other hand, is likely to go down slightly, after increasing for six consecutive years. The forecast for housing investment is based, among other things, on data on loans for new buildings, newly built housing foundations in the Greater Reykjavík Area, price developments in the real estate market and interviews with market participants. The signals are somewhat ambiguous, which increases uncertainty in the forecast. The impact of structural reforms in the residential market, described elsewhere, are expected to fade out in the course of next year.

The Central Bank forecast is broadly in line with the Ministry of Finance's forecast, but expects weaker employment and private consumption

The Central Bank's output forecast broadly resembles the Ministry of Finance's forecast from this October. It diverges on several points, however, partly explained by the fact that the Central Bank forecast takes into account information which has emerged after the Ministry of Finance forecast. Although essentially the same forecasting models are used, the final outcome always depends to large extent on judgement, and different forecasters may interpret economic indicators in different ways. It should be noted that the forecasts may be shaped by the fact that the Ministry of Finance's forecast is one of the main assumptions behind the budget, while the

Table 2 The Central Bank macroeconomic forecast

	Billion krónur at current prices			*Volume change on previous year (%)*[1]		
	2002	*2003*	*2004*	*2002*	*2003*	*2004*
Private consumption	416.9	426.3	434.7	-1½	½	1¼
Public consumption	189.6	197.7	206.4	2¾	2	2¼
Gross fixed capital formation	148.1	151.4	163.6	-14	1	6¼
Industries	81.4	83.9	95.3	-20¾	1½	10½
Residential housing	33.7	34.4	34.3	3	1	-1
Public investment	32.9	33.1	33.9	-7	-½	1½
National expenditure	754.5	775.6	804.8	-3¼	1	2½
Exports of goods and services	315.1	318.7	337.2	5½	4	4¼
Imports of goods and services	288.9	298.9	314.8	-3¼	2½	3¼
Gross domestic product	780.7	795.4	827.2	0	1½	3
Current account balance, % of GDP	.	.	.	0	-1	-1
Unemployment, % of labour force	.	.	.	2½	3¼	3
Output gap, % of GDP	.	.	.	½	-¼	0

1. Volume changes are calculated at fixed 1990-prices.

Central Bank primarily uses its macroeconomic forecast as a foundation for its inflation forecast. The following outlines the main divergences between these two output forecasts.

The Central Bank forecasts a ½% deeper contraction in private consumption during the current year than the Ministry of Finance does, and ¾% less growth in 2003. The main reason for the weaker private consumption growth in the Central Bank forecast than in the Ministry of Finance forecast is that the former assumes weaker labour market this year and next year, which will be reflected in a slower growth of wages. The Central Bank forecast is, as mentioned, for 3¼% unemployment in 2003, compared with the Ministry of Finance forecast of 2½%. Consequently the Central Bank forecast assumes slower wage growth this year. This is consistent with Bank studies suggesting a strong relation between output growth and unemployment, in accordance with Okun's law. Decreasing output growth corresponds to increasing unemployment, with output growth appearing as a leading indicator of the unemployment rate in the following years. Given that output growth this and next year will be somewhat below the long-term potential growth rate of the economy and that seasonally adjusted unemployment is already at around 3%, a significant decline in unemployment over the forecast horizon seems unlikely.

The budget presented to parliament this autumn implies that public consumption will grow by 1% next year. On the basis of experience the Central Bank expects public consumption to grow somewhat faster, by 2% in 2003, having increased on average by 2.8% for the past 10 years. If public consumption grows by only 1%, national expenditure will increase by 0.7%, rather than 1%, and output growth will be very similar. There is also a noticeable difference in the forecasts for investment in residential housing in 2002 and 2003, resulting from different assessments of market conditions.

Changing the main assumptions of the forecast has modest effect on the overall outcome

The macroeconomic forecast plays an important role in inflation forecasting. Although considerable uncertainty is always present in such forecasts, it is more pronounced in the neighbourhood of cyclical turning points. Experience from decades of forecasting suggests, for example, that a contraction in GDP and national expenditure is systemically underestimated during recessions, no less than growth is underestimated during a boom.

This is reflected in uncertainties concerning the forecast assumptions. In order to test how sensitive the Bank's two-year forecast is to changes in main assumptions, these were adjusted within reasonable limits. The impact of shocks on several important variables in the model was also examined. As it turned out, GDP growth forecast for 2002-2004 appeared not very sensitive to modest changes in assumptions. Output growth forecast spanned a range from -0.1% to +0.2% in 2002, 1.3% to 1.7% in 2003 and 2.7% to 3.3% in 2004. It should, however, be emphasized that this does not constitute a statistical test of the degree of uncertainty involved.

In all cases it was assumed that proposed large investment projects would not materialise. Since the Central Bank published its last inflation forecast in August, the probability that these projects will be given the go-ahead has not fundamentally changed. A memorandum of understanding has been concluded between Nordural aluminium company and Landsvirkjun power company on electric power sales to an expanded facility which would double Nordural's production capacity. However, the final agreements between the government and developers remain to be concluded, so uncertainty still prevails about these plans. Nor are precise estimates at hand for the cost, scope and final size of these projects. These uncertainties will presumably be clarified in the coming weeks and months, since the aim is to conclude the Icelandic authorities' agreements with Landsvirkjun, and with Nordural and Alcoa, in the New Year. If Nordural's planned expansion from 90 thousand t.p.y. production to 180 thousand t.p.y. is realised and a 320 thousand t.p.y. smelter is built for Alcoa, current estimates suggest that the total cost of hydro development and smelter construction could amount to 250 b.kr. Of these investment costs, 135 b.kr. are for hydropower development and 115 b.kr. for construction of production facilities. According to the developer's most recent estimates, the projects are assumed to spread over a five-year period, from 2003-2007.

In the last *Monetary Bulletin* the Central Bank announced a plan to publish, in this edition, an evaluation of the economic impact of these projects and possible monetary responses to them. Sufficient data were not available in time to enable this to be done. The Bank will make this assessment as soon as the prerequisites are in place for doing so and it will most likely be published in the next edition of *Monetary Bulletin*. However, it is clear from the Bank's macroeconomic forecast for the next two years that there will be relatively limited slack in the economy over that period. Projects on the scale currently planned would have an expansionary impact and inevitably call for significant monetary responses to ensure that the inflation target is attained. It is difficult to determine the size of the impact until more data becomes available. In the final analysis, however, the final assessment of the appropriate response will first be known at the time decisions are made.

Output gap

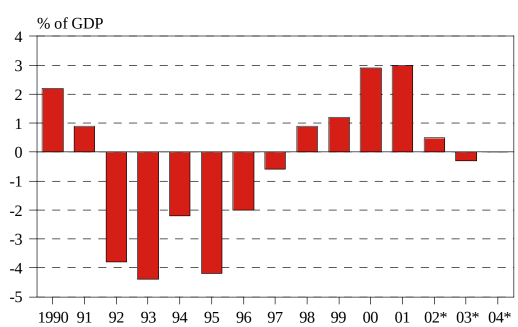
Output close to potential this and next year

The estimated output gap this year is small, or ½%, will be followed by negligible slack over the next two years. Thus output will be very close to potential during the entire forecasting period. The evaluation of current or future output gap, however, is subject to considerable uncertainties. These are linked not only to the fact that the output gap cannot be directly measured, but also that it is estimated on the basis of forecasts of the underlying development of the factors of production.

It should also be noted that in 2001 and the current year the difference between the growth rates of national expenditure and GDP have been exceptionally large. National expenditure has contracted substantially, while foreign trade developments have kept the GDP growth rate positive. This complicates the interpretation of the output gap as usually estimated, because one of the main factors that have prevented GDP from contracting has been a sharp drop in imports, which could imply that domestic demand is much weaker than GDP figures would suggest. However, it could also imply a shift in demand from abroad to the domestic economy, which of course implies less slack than otherwise.

Chart 18

The output gap 1990-2004



Source: Central Bank of Iceland.

The Central Bank's assessment of the output gap similar as the Ministry's of Finance

Estimating the output gap on the basis of the forecast published by the Ministry of Finance in the autumn, yields broadly the same results as presented above, although the estimated negative output gap in 2003 is slightly bigger. The August inflation forecast was based on an assumption of slightly weaker economy during the period 2003-2004 than currently expected. The change reflects new data and changes in the outlook for growth and employment in coming years as well as recent revisions of historical time series by Statistics Iceland, including a change in the method for measuring private consumption.

Inflation prospects

The main price assumptions of the inflation forecast have changed little

As before, the Central Bank's inflation forecast is based on the assumption of unchanged monetary policy over the forecasting horizon, i.e. the Bank's repo rate remains unchanged. Likewise, the exchange rate of the króna is assumed to remain constant from the day of the forecast. The forecast is based on the Bank's foreign exchange rate index for October 24, when it stood at 130.6 points. As shown in Table 2, this implies an appreciation of the króna by 8% over the current year, which corresponds to an annual average appreciation of 3½% between 2001 and 2002 and almost 1% between 2002 and 2003. The

August forecast, was based on an index value of 127.3. Thus the current forecast is based on an assumtion of a 2½% weaker króna for the forecasting period than assumed in the previous forecast.

Table 2 Main assumptions of the inflation forecast

	Date of forecast					
	August 2002			*November 2002*		
	2002	*2003*	*2004*	*2002*	*2003*	*2004*
Labour cost based on contractual wages†..........	4¼	3¼	3	4¼	3¼	3
Wage drift†......................	½	0	1	½	0	½
Domestic productivity‡...	¼	1	1½	½	1	1½
Exchange rate of króna, based on an imports[1] †....	-10¼	0	0	-8	0	0
Import prices in foreign currency terms‡..............	-1	2	1½	-1	1	1½

1. Based on an imports[1]-weighted basket of foreign currencies.
† indicates percentage change within year.
‡ indicates percentage change between annual averages.

In addition to the Central Bank's macroeconomic forecast outlined above and assessment of the output gap, the Bank's inflation forecast is based on various assumptions concerning the development of key cost and price variables such as wage costs and import prices. These assumptions have hardly changed since the last forecast. Growth of unit labour cost over the year is expected to be more or less consistent with the Central Bank's 2½% inflation target but will be around 1% below it in 2004. The Bank's last forecast, however, assumed that growth of unit labour cost would be in line with the inflation target in 2004. This reflects a greater slack in the domestic labour market in the next few years according to the new forecast.

Global price developments have been reassessed in light of visible signs of underlying weakness in the global economy, which will take longer to recover than previously expected. Hence, it is assumed that import prices, measured in terms of foreign currency, will rise by 1% next year, instead of 2% as previously forecast.

According to the baseline forecast, inflation will rise temporarily in the first half of next year

According to the forecast, the Central Bank's inflation target will be attained in the final quarter of this year. This is a year earlier than was aimed for in the joint declaration issued by the Central Bank and the Government of Iceland on March 27, 2001, but in line with the Bank's previous forecast. However, inflation will increase somewhat until the middle of next year, according to the forecast, and for a while inflation will be higher than envisaged in the Bank's

Table 4 Inflation forecast of the Central Bank

Quarterly changes

	Percentage change from previous quarter (%)	*Annualised quarterly change (%)*	*Change on same quarter of previous year (%)*
2001:1	0.9	3.4	4.0
2001:2	3.5	14.5	6.0
2001:3	2.3	9.7	8.0
2001:4	1.6	6.6	8.5
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	0.7	2.8	2.3
2003:1	0.7	2.7	2.0
2003:2	0.8	3.3	2.4
2003:3	0.7	2.9	2.9
2003:4	0.4	1.7	2.6
2004:1	0.5	1.9	2.4
2004:2	0.6	2.4	2.2
2004:3	0.5	2.2	2.0
2004:4	0.3	1.2	1.9

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

Annual changes (%)

Year	*Year on year*	*Within year*
1999	3.4	5.8
2000	5.0	3.5
2001	6.7	9.4
2002	4.9	1.7
2003	2.5	2.5
2004	2.1	1.9

Shaded area indicates forecast.

last forecast. This is due to the temporary impact of a weaker króna than assumed then. Furthermore, a somewhat higher rate of growth and larger output gap for this year is currently forecast. With some lag, the remaining output gap is expected to exert inflationary pressure for most of 2003. Inflation one year ahead will therefore be just under 3%.

... but two years hence inflation will be below target

As the impact of these temporary factors fades out and growing slack in the economy begins to influence prices, inflation will decline again and be around 2% two years ahead, which is in line with the Bank's last forecast. Inflation over 2002 is forecast at only 1.7%. Disinflation in the last months of 2002 and January 2003 has little to do with the falling inflation in the months ahead, but reflects the base effect, when the sharp increases in the CPI in the closing months of 2001 and January 2002 fade out of the twelve month inflation rate. Over next year an inflation rate of 2.5% is forecast, in line with the inflation target, and just under 2% over 2004.

Weaker demand could result in lower inflation than forecast ...

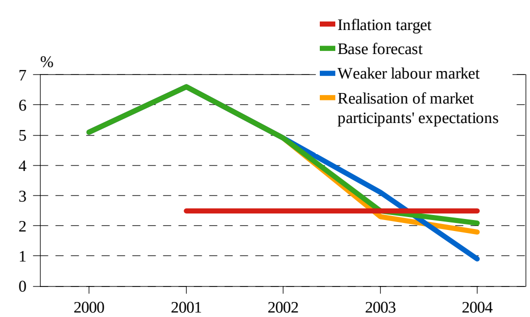
According to the above forecast, unit labour cost will be somewhat lower than the inflation target for the next two years. This may be attributed to sizeable slack in the labour market which is reflected, among other things, in rising unemployment. Some Central Bank models suggest that such conditions could contribute to an even lower level of wage drift than assumed in the baseline forecast, and possibly even a negative one, and that inflation will therefore be somewhat lower over the next two years than according to the Bank's baseline forecast.

Chart 19, which shows the annual average rate of inflation, compares the Bank's baseline forecast with an alternative scenario based on the assumption of negative wage drift in the second half of next year and well into 2004. According to the latter scenario, average year-on-year inflation will be 3% next year, after which inflation will decelerate rapidly and be down to 1% in 2004, instead of more than 2% as in the baseline forecast. The alternative scenario implies that inflation may fall some way below the Bank's target later in the forecasting period, if the position of the domestic labour market is weaker than assumed in the baseline forecast. Possibly exerting an effect in the opposite direction, however, is a strong position of the fisheries sector which could provoke wage drift in the private sector labour market later on. The recent strengthening of the exchange rate of the króna should, however, reduce the probability of such an outcome.

Chart 19

Inflation forecast: Alternative scenarios

Year-on-year inflation



Source: Central Bank of Iceland.

The recently achieved exchange rate stability seems to be on a firmer footing than before. The current account deficit has virtually disappeared and a surplus can not be excluded. Privatisation of domestic financial institutions and increased currency inflows due to foreign portfolio investment could also serve to strengthen the króna. Expectations about proposed power-intensive industrial development projects could have a similar effect in the near future. All these factors could contribute to the strengthening of the króna during the forecasting period, in excess of the assumptions made in the baseline forecast. This is reflected, for example, in the expectations of financial market experts (see Box 3), who on average, according to a Central Bank survey, expect the króna to strengthen by 2% over the next two years. If this exchange rate forecast comes true, inflation over the next two years will *ceteris paribus* be marginally lower than assumed in the baseline forecast, as the chart shows.

These scenarios reflect the uncertainties inherent in inflation forecasts. Another case is uncertainty concerning asset price developments, domestically and abroad. If domestic wages move in line with the alternative scenario given above, this could have a negative effect on demand for housing and bring down housing prices. If housing prices fall, the consequent deterioration in balance sheets of households might weaken domestic demand and ease domestic inflationary pressures by more than foreseen in the baseline forecast. Household indebtedness makes them sensitive to negative financial shocks. Thus the fundamentals for private consumption could be even weaker than assumed in the baseline forecast. In addition, the recent slump in global stock markets could have a direct impact on the balance sheets of domestic households and businesses, and hold back a global recovery.

Given the slow rate of recovery in the global economy, it is conceivable that oil prices will be significantly lower in the near term than assumed in the baseline forecast. In the past few days oil prices have fallen somewhat and expectations, in the forward market, have reflected this development. A perception of lower probability of a war in Iraq might also have played a part. Lower oil prices would imply less imported inflation than assumed in the baseline forecast.

Another reason to expect potentially more slack in the economy than according to the baseline forecast is that the statistical methods for estimating the output gap may have a tendency to allocate too large a share of changes in demand to changes in the production capacity of the economy. If this is correct, it is conceivable that too much of the fall in output growth over the forecast period is allocated to a temporary fall in the growth rate of potential output. If this is the case the slack currently forming in the economy would be underestimated and the accompanying inflationary pressure overestimated. This is a problem faced by all inflation forecasters, but can be quite crucial around business cycle turning points.

... but the likelihood of power-intensive industry, and the general election next year, could result in higher than forecast inflation

The uncertainties outlined above indicate that the odds of inflation ending up below the Bank's baseline forecast are somewhat greater than the probability that it will exceed the forecast. However, other factors work in the opposite direction. These include potential power-intensive industrial projects. Their probability has changed little since August. If these projects materialise, inflation during the forecasting period, in the absence of monetary policy response, will be somewhat higher than forecast above. Likewise, public sector demand could grow more than forecast, bearing in mind that a general election is being held next year.

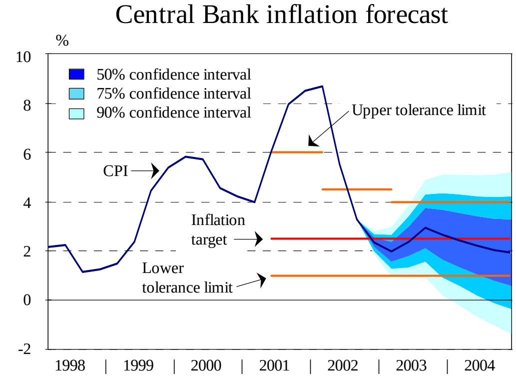
The risk spectrum is broadly balanced

Considering the above, the conclusion is that the risk of either lower or higher than forecast rate of inflation is broadly balanced. This represents a change from the August report, when the Bank estimated the upside risk to be greater than the downside risk. As pointed out before, historical forecasting errors are likely to overstate to some extent the uncertainties, since they tend to be influenced by recent developments, characterized by high and volatile rate of inflation.

Chart 20 presents the Bank's baseline forecast for the next two years together with an assessment of its confidence range. The entire coloured area shows the 90% confidence interval; the two darkest ranges show the corresponding 75% confidence interval, and the darkest range shows the 50% confidence interval. The uncertainty increases with the horizon of the forecast, as reflected in the widening of the confidence intervals.[11]

Chart 20

Central Bank inflation forecast



Source: Central Bank of Iceland.

11. The range for which the Bank has not previously forecast is based on a simple projection. 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 a precise assessment of the probability distribution of forecast inflation.

Box 3 Finance market analysts' assessments of the economic outlook

The Central Bank is publishing for the third time the results of its survey of financial market analysts' assessment of the economic outlook for the next two years. Analysts' assessments, it should be pointed out, are based on the assumption that no power-intensive industrial development projects will materialise, which is consistent with the Bank's macroeconomic forecast presented above.

Firstly, the table shows the analysts' evaluation of inflation prospects for this year and next year. Their forecasts for inflation in the course of 2002 and annual average inflation correspond very closely to the Central Bank forecast. For this year the forecasts are virtually identical, but for 2003 the analysts' average forecast is marginally lower than the Bank's forecast.

Analysts were also asked about the outlook for other key economic aggregates. Their responses revealed an average assessment of GDP growth prospects not far from the Central Bank's macroeconomic forecast, although individual forecasts diverged quite widely.

Five out of six of the analysts expect the exchange rate of the króna to remain virtually unchanged for the next twelve months and over a two-year horizon half of them still hold this view. In general there is far more optimism about the long-term exchange rate of the króna than earlier this year. The analysts also expect that the Central Bank will continue to lower interest rates and that the policy rate will be under 6% one year hence. As in the last survey, most expect to see interest rates to bottom out within the next two years, with a slight rise in the second half of the forecasting period, even though no power-intensive industrial projects are assumed.

Finally, the survey findings suggest that analysts have conflicting views about equity price developments over the coming two years. Most expect equities to rise over the coming twelve months, across a range of 6-34%. Others are more pessimistic and the lowest recorded value was a decline of 7%. Looking further ahead, however, they are unanimous that equity prices will rise, although there is substantial variation. The analysts' views on the outlook for real estate price also differ, with some forecasting a rise and others a fall.

Overview of forecasts by financial market analysts[1]

	2002			*2003*		
	Average	*Highest*	*Lowest*	*Average*	*Highest*	*Lowest*
Inflation (within year)	1.8	2.1	1.6	2.2	2.6	1.5
Inflation (year-on-year)	4.9	5.0	4.8	2.3	2.8	1.5
Economic growth	-0.1	0.3	-0.8	1.8	2.3	1.5
	One year forward			*Two years forward*		
The effective exchange rate index of foreign currencies vis-à-vis króna (Dec. 31, 1991=100)	129.0	130.0	124.0	129.2	132.0	120.0
Central Bank policy interest rate	5.8	6.2	5.2	6.1	6.5	5.0
Nominal long-term interest rate[2]	6.4	7.0	5.5	6.6	7.0	5.3
Real long-term interest rate[3]	4.7	5.2	4.2	4.8	5.0	4.3
ICEX-15 share price index (12-month change)	5.8	16.8	-7.0	19.1	34.2	0.0
Housing prices (12-month change)	1.5	5.0	-1.5	1.4	4.0	-2.5

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 Búnadarbanki, Economic Consulting and Forecasting, Íslandsbanki, Kaupthing, 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 bonds (IBH 41 0315). *Source*: Central Bank of Iceland.

According to this risk assessment there is a 60% probability that inflation two years ahead will be below the Central Bank's inflation target; by comparison, the probability of inflation finishing below or above the inflation target was considered roughly balanced when the Bank issued its last forecast. Table 6 shows an assessment of the probabilities that inflation in the following quarter, and one and two years ahead will be in different ranges.

Table 6 Probability ranges for inflation over the next two years

	Inflation				
	under 1%	*in the range 1% - 2½%*	*in the range 2½% - 4%*	*under 2½%*	*above 4%*
Quarter					
2002:4	< 1	71	29	71	< 1
2003:3	5	31	45	36	18
2004:3	29	31	25	60	15

The table shows the Bank's assessments of the probability of inflation being in the column's interval in percentages.

III. Financial conditions and monetary policy

The monetary stance has eased in recent months in wake of the Central Bank's interest rate cuts. Other financial conditions, on balance, have become more accomodative. In real terms, the Central Bank's policy rate at the end of October was above a probable estimate of the equilibrium interest rate and higher than warranted by the economic outlook, in the absence of the planned aluminium projects. In the Bank's assessment it is at this stage not appropriate to base monetary policy decision on the possibility of large scale investment projects. The risk of a severe recession if they were to be deferred would be too large. Moreover, there will be considerable lag between a decision on the projects to the peak of activity. Given the agility of monetary policy this should allow sufficient scope for adjusting monetary policy later.

Financial conditions and monetary stance

The monetary stance has eased and overall financial conditions are less tight

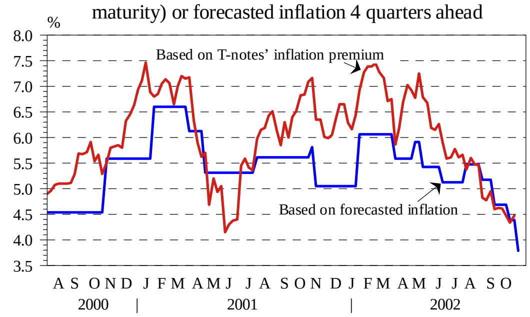
The monetary stance, measured in terms of the Central Bank's real repo-rate, has eased considerably in recent months, as explained in more detail above. Other financial conditions have also eased, since interest rates on non-indexed and indexed bonds have declined, interest on non-indexed bank loans likewise, the exchange rate of the króna has depreciated slightly since August and equity prices have gone up. The main impetus behind this easing has been the Central Bank's interest rate cuts, altogether four of them over the period August-October and amounting to a total of 1.7 percentage points.

The interest rate cuts have been passed on, in real terms, although not to the full extent, since inflation expectations have also abated as inflation has declined. The Central Bank's real repo-rate, calculated on the basis of inflation premium, was around 4½% at the end of October, compared to 5½% towards the end of July. However, if calculated on the basis of the Bank's current forecast of just under 3% inflation one year ahead, the real repo-rate is 3.8%. The cut in policy rate has also been almost fully reflected in a narrower interest rate differential with abroad, and has contributed to lower exchange rate. The short-term correlation between changes in the policy rate and exchange rate is discussed in more detail in Box 4.

Chart 21

Central Bank policy rate in real terms 2000-2002

Based on T-notes' inflation premium (at 4½ yrs. maturity) or forecasted inflation 4 quarters ahead



Source: Central Bank of Iceland.

The transmission of changes in policy interest rates throughout the interest rate spectrum takes considerable time. In particular, there is a considerable lag between changes in policy rates and its full effect on indexed bank rates.[12] Other factors than changes in short-term interest rates also have an impact on these rates, e.g. credit risk, which may increase when the economy is contracting. Rates on indexed bank lending have hitherto declined by considerably less than rates on indexed bonds carrying government guarantees.

Monetary policy

Economic conditions favour further Central Bank interest rate cuts

The Central Bank's lowering of interest rates in the previous quarter were based on the analysis and inflation forecast presented in the August issue of *Monetary Bulletin*. The forecast indicated a sharp deceleration in inflation and growing slack in the economy. Developments hitherto have confirmed this analysis, as pointed out above.

At the end of October the Central Bank policy rate was around 4% or higher in real terms, depending on the criterion on inflation expectations. This is close to the upper limit of what can be regarded as the long term equilibrium rate, in real terms. The equilibrium real rate of interest refers to the appropriate real rate at times when inflation is stable and the output gap is neither significantly positive nor negative. Estimating this long term equilibrium rate, however, is subject to great uncertainties, not only of a methodological nature but also because the equilibrium rate of interest is not a constant but a parameter determined by, for example, the highly uncertain future growth path of potential output. If production capacity is assumed to grow by 3%, it can be argued on the basis of historical correlation between interest rates and GDP growth in other countries that Iceland's real equilibrium rate of interest lies in the range 3-4%, but closer to the lower limit than the upper one. On the basis of this assessment, the Central Bank's policy rate at the end of October was somewhat above a neutral stance.

It should be emphasized that estimates of the equilibrium real rate of interest are merely for reference and do not restrict the Central Bank's interest rate decisions at any given time. The Central Bank does not aim to keep its policy rate close to the equilibrium, but for a rate appropriate for keeping inflation as close as possible to the Bank's target over a horizon of roughly two years. Thus the interest rate may fall below the equilibrium position when the outlook is for inflation at or below target and there is slack in the economy, or above it when there is a risk of excessive inflation. Interest rate decisions are a constant quest for rates that fit the prevailing economic conditions at any given time. Eventually, the equilibrium real rate of interest will be established as the result of interest rate decisions over a long period. Central bank interest rate decisions are always made under conditions of substantial uncertainty as to the equilibrium rate as well as the state of the economy and prospects. Because of this uncertainty central banks, as a rule, usually prefer to change interest rates in many small steps rather than a few large ones.[13] The macroeconomic and inflation forecasts presented above, and the assessment of the monetary stance, suggest that conditions are ripe for further lowering of interest rates in the near future. As always, however, this will depend upon whether unfolding events confirm the above analysis.

Monetary policy will disregard planned investment projects until they have been decided

In case the large investment projects discussed above will be launched next year, the premises of monetary policy will be fundamentally changed. Although the probability of this happening is substantial, the Central Bank does, at the present stage, not see sufficient grounds to set interest rates assuming that the projects will go forward.

The Central Bank could respond to potential aluminium and hydropower projects in three ways. Firstly, as it has done hitherto, the Bank could assume that such programmes will not materialise

12. Thórarinn G. Pétursson (2001), "The transmission mechanism of monetary policy: Analysing the financial market pass-through", Central Bank of Iceland, Working Papers, no. 14/2001.

13. A more detailed discussion of uncertainty and central bank interest rate decisions is found in the article by Már Gudmundsson elsewhere in this publication.

until a final decision has been taken. Secondly, if it considers the projects highly likely, the Bank could begin to set interest rates based on that assumption immediately. Thirdly, the Bank could follow a middle course, attaching some weight to two forecasts, one including and one excluding the projects, the weights reflecting the perceived probability of either option. In such a case the resulting interest decisions would obviously always be inappropriate, irrespective of whether the projects materialised or not. If they did not materialise the monetary stance would be too tight, but if they did the opposite would apply.

In this context three factors regarding monetary policy formulation should be noted. Firstly, some time will elapse from the time of decision until the impact will significantly affect economic activity, and even longer until the full impact is felt on domestic demand and inflation. Secondly, monetary policy functions with a lag. Thirdly, monetary policy is inherently quite flexible to respond to changes in economic conditions. Interest rates can be raised quickly if needed. In general, it is preferable to take a conservative approach to reacting to news or possible big events, even if the probability of a large shift in important variables are quite high. A further argument in favour of the current policy is that if the projects fail to materialise, the probability of a significant economic down turn next year is significant, especially if external conditions turn out to be less favourable than assumed in the preceding forecast. Monetary policy based on projects which fail to materialise could lead to an recession that otherwise could be avoided. Even if interest rates were cut quickly as a decision not to go ahead were taken, monetary policy could turn out to be less efficient in stimulating a depressed economy than cooling the economy down during periods of overheating. Given all of the above, it seems wise to base monetary policy on the assumption that no power-intensive projects will go ahead until a decision has been taken. As soon as the decision is known, monetary policy can be expected to reflect the change in the outlook very quickly, with higher rates of interest than would otherwise be the case.

Box 4 The short-term relation between changes in policy interest rate and exchange rate

One of the most important transmission channels for monetary policy in a small, open economy like Iceland is the exchange rate channel. By raising its policy rate the Central Bank of Iceland can make domestic bonds more attractive, thus increasing demand for them, which in turn increases demand for krónur, leading to a temporary strengthening of the exchange rate, all other things being equal. Such a strengthening causes a temporary rise in the real exchange rate which then weakens the competitive position of domestic industries and reduces domestic demand. Furthermore, the stronger exchange rate slows down rises in import price increases, which has a direct effect on domestic prices. The output gap and inflationary pressure are thereby diminished.

Monetary policy, on the other hand, is only one of many determinants of exchange rate developments, since other market factors and investor expectations are also important and often more so. For this reason it has often proved difficult to assess the impact of monetary policy on the exchange rate and its timing. One method which is frequently employed is to use a VAR analysis which attempts to isolate the impact of policy rate changes on the exchange rate of currencies. The general findings of such studies suggest that the impact of central bank interest changes are generally in the direction indicated by theory, but often take longer to be transmitted than might have been expected beforehand. A similar analysis is made in Thórarinn G. Pétursson's article in *Monetary Bulletin* 2001/4.[1] It emerges there that the changes in the Central Bank's policy rate have relatively little impact on the exchange rate of the króna for the following quarters and that their delayed timing is consistent with comparable international studies.

Despite the relatively small impact of monetary policy on the exchange rate in the long run, the short-term impact can be sizeable. One way to examine this is to take the days when the Central Bank has changed

1. Thórarinn G. Pétursson (2001), "The transmission mechanism of monetary policy", *Monetary Bulletin*, 2001/4, pp. 62-77.

its policy interest rate and analyse the impact this had on the exchange rate of the króna in the following days using a simple regression analysis. The regression model is given as

$$(100/k)(\log s_{t+k} - \log s_t) = \alpha_k + \beta_k x_t + \varepsilon_{kt}$$

where s_t is the exchange rate index for the Icelandic króna against foreign currencies on day t, x_t is the change in the Central Bank's policy rate on day t, k is the number of trading days after the change in the policy rate, ε_{kt} is an independent and identically distributed residual and α_k and β_k are the parameters to be estimated.

To examine the impact of changes in the policy interest rate on the exchange rate of the króna, data were used from November 18, 1997, when the Central Bank made its first interest rate change after the reorganisation of Iceland's foreign exchange market on July 8 the same year. Since then, the Central Bank has changed its policy rate eighteen times. Thus, the analysis involves a relatively small data set, during which substantial systemic reforms were made, e.g. concerning the Central Bank's involvement in the foreign exchange market and the monetary policy framework. These findings therefore need to be interpreted cautiously.

The Central Bank's policy rate changes are always made after the closure of the market, so that the changes are measured then. The foreign exchange rate index is the registered exchange rate for each day, so that s_t is the registered exchange rate for the day when the interest rate change is made (just before noon that day). Exchange rate changes are therefore calculated between two daily recorded exchange rates.[2]

The empirical analysis assesses the impact of policy interest rate changes on the exchange rate of the króna one, two, five, seven, ten and thirty trading days following the policy rate change. The estimation results are shown in the table.

It can be seen that a rise in the policy rate generally has a statistically significant negative impact on the foreign exchange rate index for up to seven business days afterwards (based on the 95% confidence level), i.e. a rise in the policy rate leads to a rise in the exchange rate of the króna, and the opposite applies if interest rates are cut. The initial impact is the largest, with a 1% policy rate rise leading to a 0.75% fall in the exchange rate index on average. The impact is just over 0.3% after two days, 0.15% after seven business days and has become statistically insignificant from zero ten days after the interest rate change.

Likewise, the explanatory power of monetary policy for exchange rate movements is the greatest immediately after the rate change. Interest rate changes explain about 20% or more of exchange rate changes for the first two days afterwards, but their impact has totally disappeared 30 business days afterwards.

The chart shows the accumulated impact of interest rate changes on the exchange rate index, It shows how the effects are greatest at first and then slowly fade out.

2. It would have been better to measure st with the exchange rate of the króna at the end of each day, but such data are not available for the whole period.

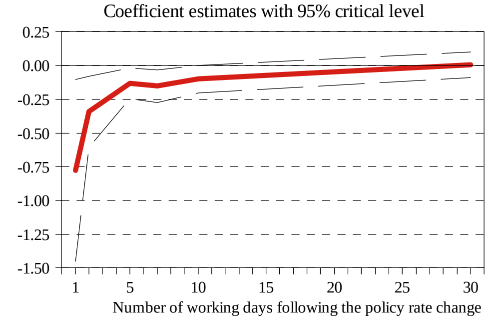
The effects of Central Bank of Iceland policy rate changes on the króna 1997-2002

Working days following the policy rate change	β_k	$se(\beta_k)$	R^2_k
$k = 1$........................	-0.775†	0.321	0.216
$k = 2$........................	-0.342†	0.126	0.284
$k = 5$........................	-0.133†	0.055	0.110
$k = 7$........................	-0.152†	0.057	0.144
$k = 10$......................	-0.101	0.048	0.123
$k = 30$......................	0.004	0.045	0.000

$se(z)$ is the standard error of coefficient z corrected according to the Newey-West method. + indicates that the coefficient is statistically significant from zero according to a 95% critical level.

The effects of a 1% policy rate change on the exchange rate index

Coefficient estimates with 95% critical level



Source: Central Bank of Iceland.