Financial stability[1]

As the economy slows down the external imbalance which undermined stability last year has greatly diminished. The outlook is for a current account deficit this year of less than 2% of GDP and the deficit may even disappear completely. At macroeconomic level, the conditions for financial stability have therefore improved. The financial system strengthened last year and ended up in a better position than had been foreseen in the middle of the year and in the Central Bank's last study, published in November 2001. However, it should be recognized that the good performance of many financial institutions is to a large extent attributable to temporary factors. It is therefore vital for them to remain on the alert, since conceivably they will still encounter loan losses in the wake of large credit expansion in recent years and signs of payment difficulties among businesses and households.

The Icelandic economy has returned to balance more quickly than had been foreseen. However, despite a sharp contraction in national expenditure, the financial system has come under less strain than could have been expected. In part this is explained by the fact that the adjustment has taken place under relatively favourable external conditions, and that the external sector has absorbed a large share of the decline in domestic demand. Since the middle of last year the risk posed by a major depreciation of the króna has greatly diminished. Latent problems accumulated in recent years may emerge later, however.

The financial position of many Icelandic households tightened last year when disposable income growth slowed down and their debt service burden rose simultaneously. It is to be expected that the financial position of many households is vulnerable to the extent that a considerable drop in disposable income would seriously hurt their ability to meet their financial obligations, especially if inflation were to turn out higher than is currently forecast. In this context it should be noted that a surge in inflation poses probably greater risk to the financial viability of households than high interest rates do. Inflation last year temporarily boosted financial companies' profits. However, it has raised their long-term risk profile by raising the debt service burden of households.

Debt accumulation by Icelandic businesses is also a cause of some concern. Many of the stronger companies consolidated their positions last year despite considerable negative impact of the depreciation of the króna on their balance sheet. However, it is conceivable that problems have accumulated over time which will emerge later, particularly in sectors connected with retail, services and the construction industry.

Financial institutions have responded to these conditions in many ways. Their lending has been more restrained compared with previous years and their liquidity position is acceptable. Overall profitability was better in 2001 than in the preceding year, provisions for loan losses were increased and the equity ratio improved. However, various qualifications need to be made. Improved profitability is partly explained by the positive effect of inflation on the bank's balance sheet due to favourable balance of indexed assets and liabilities. The lowering of the corporate income tax rate had a substantial impact, and probably only a fraction of expected loan losses have emerged.

1. This article uses data available on May 3, 2002.

In the financial stability report published in November 2001 it was concluded that the return to a more balanced economy that had begun was both inevitable and necessary. There were indications of more difficult times ahead, but on the whole, the credit institutions appeared to be in a position to handle problems which might lie ahead.

This was a fairly positive conclusion in light of the fact that a rapid depreciation of the króna had put the financial system under strain. When the report was prepared at the end of October 2001, it was not clear when and how quickly the króna would recover. The profitability of financial institutions and listed companies was better last year than had been expected, share prices have gone up and the reduction in corporate income tax produced a brighter business outlook. More favourable developments in the external environment, adaptability of businesses and more cautious operations by financial institutions have reinforced the positive evaluation of financial stability.

There may have been a tendency to be over-pessimistic last year, but at present there are grounds for warning against over-optimism. The adjustment required to restore macroeconomic balance may seem milder than seemed likely for a while. A contraction in GDP is nonetheless forecast this year and the growth outlook for 2003 is uncertain. Moreover, figures for GDP growth last year conceal a sharp contraction in national expenditure which is expected to continue during the current year. The profit squeeze experienced by some firms in the domestic market and heavy indebtedness of both households and businesses are a definite warning sign, suggesting that their scope for meeting negative shocks may be limited. Credit institutions' loss risks are therefore increasing, since these tend to appear with a substantial lag in the wake of periods of strong lending growth and economic boom. These existing problems need to be addressed and contingencies must be made for unforeseen events.

An IMF mission delivered its report on the Icelandic economy in March. It pointed out various risk factors in the financial system. For their informational value and to stimulate dialogue on these important issues, Appendix 2 specifies the points concerning financial stability that were identified by the IMF mission, with some discussion of issues related to them. The report is published in its entirety elsewhere in this edition of *Monetary Bulletin.*

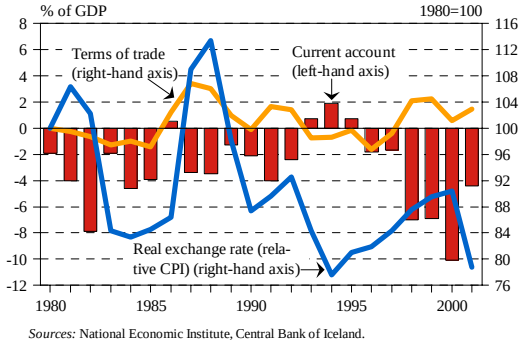
Macroeconomic indicators

Favourable external conditions promote stability, despite a fast landing

The withdrawal symptoms from the overheating that characterised the economy from 1998-2000 have hitherto been milder in some respects than could have been expected. One reason is that external conditions have been fairly favourable so far while the economy has been returning to balance after a period of overheating. When such an adjustment takes place, the financial system can be expected to come under strain and be more susceptible to external shocks than normally. This happened in Sweden and Finland, for example, a decade ago. These countries' economies were hit by external shocks while moving back into balance after a period of overheating, and the consequence was a costly financial crisis. In fact, the economic situation in Iceland's trading partner countries was on a downturn in recent years, without resulting in a decline in exports or deterioration in the terms of trade. In recent months the economic outlook among main trading partner countries has begun to improve, although there is some risk of a reversal (see Box 4 on p. 19). The terms of trade did not improve as much in the upswing in recent years as they did in similar periods in the 1970s and 1980s, nor was the subsequent downswing the result of worsening terms of trade or other external shocks, as

Chart 1

Current account, the real effective exchange rate and the terms of trade 1980-2001

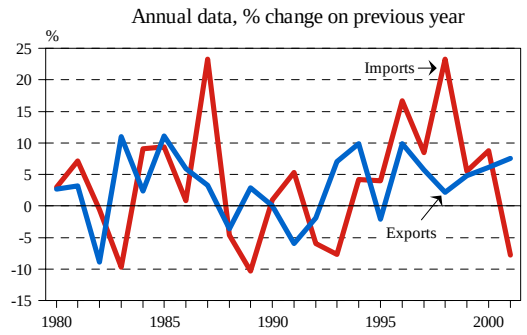


Sources: National Economic Institute, Central Bank of Iceland.

was generally the case before. On the contrary, the terms of trade improved somewhat last year, at the same time as national expenditure contracted. Consequently, the inevitable landing has been much swifter and less painful than otherwise.

Chart 2

Merchandise exports and imports 1980-2001



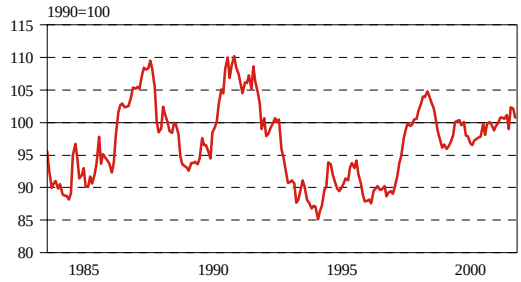
Source: National Economic Institute.

Prices of marine products are fairly favourable at the moment and there seems to be little likelihood of their falling in the near future. The economies of trading partner countries are rallying after a relatively shallow downturn and demand should remain relatively strong in the near term. Furthermore, as the real price of marine products in terms of foreign currency, did not rise as high during the preceding business cycle as often during previous upswings the risk of a large fall in prices appears muted. Prices of marine products in terms of foreign currencies deflated with the CPI in trading partner countries ran around 6% higher during the first months of 2002 than on average over the past two decades. At the trough in 1994, real prices of marine products were approximately 15% lower than at the beginning of 2002. This can be seen as an indication of how much prices could drop in a worst-case scenario. By comparison, marine export prices fell by almost one-quarter in real terms from the beginning of 1991 to the middle of summer in 1994. With the economic recovery among trading partner countries and an outlook for fairly restrained supply from main competitors, a very large and sudden drop in prices appears unlikely.

Among factors contributing to decline in the current account deficit and improve the macroeconomic

Chart 3

Marine product prices, measured in real, foreign currency terms[1] January 1984 - March 2002



1. Prices in domestic currency terms have been converted using an export-weighted exchange rate index and an export-weighted price level index for export-receiving countries.
Sources: National Economic Institute, Central Bank of Iceland.

position last year was a decrease in oil prices by 4% on average, measured in terms of foreign currency, and more in the last months of the year. Also, import volume dropped substantially. The outlook on oil markets is as uncertain as ever. The Middle East conflict and US actions against terrorist organisations and the countries that are thought to support them heighten the risk of sizeable price rises, as happened at the beginning of the year. Ample inventories and forward prices could suggest a drop in the near term (see Box 2 on the situation and outlook in oil markets, on p. 10).

Although there is little to suggest that a considerable deterioration in the terms of trade is in the offing, it should still be borne in mind that changes in the terms of trade are hard to foresee. A scenario in which export prices of marine products go down sharply at the same time as oil prices rise and catches decline, could cause quite a tight situation. However, the probability of all of this happening seems fairly slight.

Exports increased considerably faster last year than the National Economic Institute had forecast, or by 7.6%. Growth of exports surged in the closing months of the year. For this year the NEI forecasts sluggish growth, however. The surge in the last months of 2001 can conceivably be traced to the fact that exporters depleted their inventories, since prices in foreign markets were high and the exchange rate of the króna was low. Aluminium manufacturers also cut back on their inventories during the year. The fishing quota position is fairly good on the whole, however, so that no sizeable contraction should take

place in exports when the end of the fishing year (August 31) approaches, even though a higher proportion of the cod quota has already been fished than at the same time in recent years.

The outlook for exchange rate stability has improved, but the consequences of swings in inflation and the exchange rate may emerge later

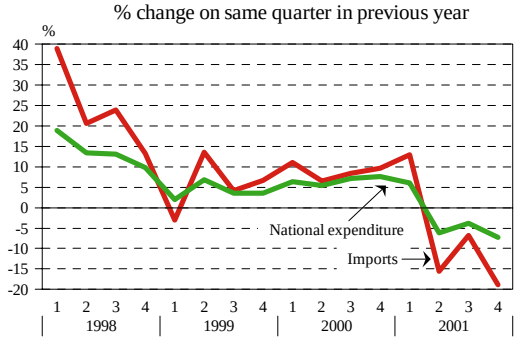
Even though export growth is expected to be more sluggish this year, cf. the NEI forecast, the macroeconomic fundamentals for stability have improved considerably. The current account deficit shrank much faster than had been expected. A deficit equivalent to 2% of GDP, as the NEI has forecast for 2002, can be regarded as sustainable. The merchandise account surplus for the first two months of this year also suggests that the current account deficit could turn out smaller yet, or even disappear completely. The outlook for exchange rate stability has therefore improved enormously. However, the decrease in national expenditure for the second consecutive year could put the financial system under strain, although perhaps less than might seem likely on first impression. The reason is that the contraction in national expenditure has been absorbed by the external sector via an even greater contraction in imports, which contracted by 7.8% last year and are forecast by the NEI to decrease by 3.6% this year. Thus difficulties could perhaps be expected in those sectors of the economy that are most closely linked to imports of goods and services.

The exchange rate of the króna bottomed out at the end of November 2001 when it was 29% lower than at its peak in spring 2000, which is equivalent to an average increase of more than 40% in the price of foreign currency. Since November, the exchange rate has strengthened significantly. From the low in November to the beginning of May, the exchange rate of the króna has strengthened by more than 16%. These swings indicate the effect that the timing of transactions and contracts can have on corporate profitability, although it should be borne in mind that only a small part of transactions has taken place at the peak or trough. If foreign trade continues to develop broadly in line with the recent trend, the stage could be set for further appreciation of the króna. The postponement of planned hydropower development projects, however, delays the accompanying capital inflow and their impact on the exchange rate. Thus it is unlikely that the exchange rate will strengthen excessively in the near term, which could also have been a risk factor.

A high and volatile rate of inflation, no less than exchange rate fluctuations, is a potential risk factor for the financial system. Changes in relative prices and the general uncertainty accompanying a volatile inflation rate could lead to misguided decisions by businesses and households. A high and volatile rate of inflation also leads to fluctuations in nominal and real interest rates, making it difficult for households and businesses to evaluate their debt service burden. The consequences of mistakes made as a result of these fluctuations may emerge with a considerable lag. As discussed later in this article, financial institutions profited from higher inflation last year. It is less clear how households and businesses have fared in the battle with inflation. The level of employment was still high last year and real wages more or less remained stable. The adverse consequences of any misguided actions by households may not surface fully unless economic conditions worsen. Due to heavy household and corporate indebtedness and the extensive use of price indexation, swings in inflation can have more long lasting consequences in Iceland than elsewhere. In the short run the intensive use of indexation may at times soften the blow to household and business finances during periods of tight monetary policy compared to what would be the case of variable interest rates on non-indexed liabilities. An increase in interest rates on non-indexed loans can force borrowers to repay their loans more quickly in

Chart 4

National expenditure and imports 1998-2001



Source: National Economic Institute.

real terms than desired, if new loans are not available. Furthermore, variable interest rates on non-indexed debt are likely to lead to more volatile real interest rates.[2] On the other hand, price indexation of credit can enable households and businesses to take on more long-term debt, which may mean that swings in inflation and interest rates have a more persistent impact on their finances than if debt were mainly non-indexed and of shorter maturity.

The short-term foreign asset position reached a low at the end of Q3/2001

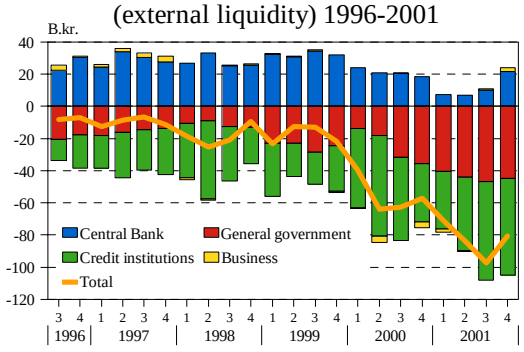
Among the possible indicators of conceivable strain on the exchange rate and currency reserve are changes in the net asset position of the economy, especially in terms of liquid assets. External liquidity is the difference between the economy's current assets and liabilities.[3] The more that current liabilities exceed current assets, the greater the risk of a sudden currency outflow when residents choose, or are forced for some reason, to repay their debts.

Previous financial stability reports have discussed this aspect of financial stability. It should be noted that after the fixed exchange rate regime was abandoned in favour of inflation targeting, the liquidity position may not have the same significance as before, when it was a major indicator of the regime's potential for withstanding a sudden currency outflow. Nonetheless, the current position can serve as a useful indicator of the risk of major exchange rate swings, which certainly can still occur under the new monetary framework, although they will scarcely be as sharp as when a fixed exchange rate regime comes under attack.

Iceland's liquidity position worsened substantially in 2000 and reached a low around the middle of the year, when it was negative by 64 b.kr. The position then improved somewhat until the end of the year, partly with the conversion of current liabilities into long-term ones, then worsened again until the end of the third quarter of 2001. By that time Iceland's foreign liquid position was negative by 97 b.kr., but it improved by 17 b.kr. for the remainder of the year. The foreign liquid position of deposit banks was the decisive factor in these developments, along with the Central Bank's worsening current position. The foreign short-term position of deposit banks showed some improvement from the middle of 2000 until the end of the first quarter last year, but deteriorated once again during the last three months of the year, in part because long-term borrowing was postponed following September 11. It improved once again in the opening months of 2002, when short-term loans were converted into long-term debt. The Central Bank's current position bottomed around the middle of 2001, but has strengthened substantially since then. It should be underlined that the Central Bank has contractual access to a foreign credit facility now amounting to 70 b.kr., of which 10% has been tapped at present. The Central Bank's strength for countering currency outflows due to changes in Iceland's external liquidity increased last year, both because of action to boost its position and rapidly diminishing external imbalances in the economy.

Chart 5

Quarterly net short-term foreign asset position (external liquidity) 1996-2001



Source: Central Bank of Iceland.

The position of listed companies improved on average last year despite exchange rate losses...

The economic turmoil last year had a more modest impact on major corporations than had been foreseen for some while. Many of the companies listed on Iceland Stock Exchange (ICEX) managed to increase their turnover considerably. On average, the increase was 9% in real terms, after adjustment for the effects

2. In the long run, price indexation has the advantage of reducing uncertainty about real interest rates, thereby facilitating funding of long-term investments. For this reason, real interest rates on indexed loans are generally lower than on non-indexed loans of the same maturity.

3. External liquidity is defined as monetary assets less current liabilities (with a shorter original maturity than one year). Monetary assets are defined as assets with a maturity shorter than one year or liquid market securities.

of price and exchange rate changes on export turnover. EBITDA increased markedly in fisheries, from 18% to 28%. The only group of businesses generating less profit were in the transportation and software sectors. Software was the only sector to show a contraction in turnover. Even the listed retail and service companies showed an increase in profit before depreciation and net interest expenses, although their profit after taxes dropped significantly. However, the three service companies listed on ICEX only represent a fraction of businesses in this sector, and are probably among the best placed. Forecasts by financial corporations are optimistic that companies listed on ICEX will also fare quite well this year.

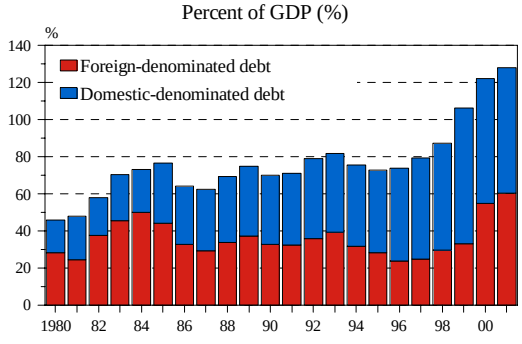
...but their favourable returns may give a misleading view of companies as a whole

The relatively positive picture of business profitability drawn up above may give an unwarrantedly favourable impression of the financial position of the business sector as whole. Firstly, the listed companies do not accurately reflect the whole spectrum of businesses in Iceland. Secondly, the economic downturn, so far, has only affected a few sectors, since Iceland nevertheless recorded one of the highest rates of economic growth among developed countries in 2001. Moreover, firms can often survive for years saddled by financial problems incurred during external shocks. Hence, bankruptcies may peak several years into recovery. There are several indicators of increasing vulnerability in the business sector. Corporate indebtedness continued to increase last year. In part this was an autonomous process caused by the depreciation of the króna and the rise in the CPI, to which large share of the loan portfolio is indexed. Debt denominated in foreign currencies increased by ¼ last year. Of this figure, 17% can be attributed to the depreciation of the króna. Domestic-denominated debt grew by less, or 15%, which is nevertheless considerably higher than domestic inflation. As a proportion of GDP, corporate indebtedness was 128% at the end of last year. The strengthening of the króna and higher than previously projected GDP lowered the debt ratio slightly from what was reported in *Monetary Bulletin* 2001/4.

A clear sign of a tighter financial position of many businesses is the growing number of bankruptcies and unsuccessful distraint actions in recent years. Last year, unsuccessful distraint actions against businesses, which tend to prefigure bankruptcy, increased by almost 80% from the previous year and were more than triple the number in 1998. The lack of comparison with earlier economic downturns makes the interpretation of these figures difficult, as the degree of sensitivity to economic fluctuations is not well known. The comparison with 1998 may be unfavourable because that year was probably an exceptionally good one. Information is also lacking as to the amounts at stake. Recent developments, however, suggest that the financial position of many companies has weakened. Bankruptcies did not increase on the same scale, or by one-fifth, between 2000 and 2001, but the growth in unsuccessful dis-

Chart 6

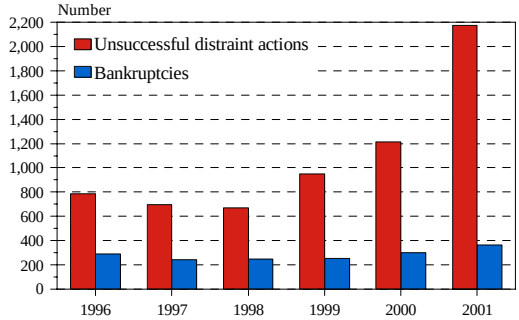
Corporate debt 1980-2001



Source: Central Bank of Iceland.

Chart 7

Businesses: unsuccessful distraint actions and bankruptcies 1996-2001



Source: Lánstraust credit rating agency.

traint actions suggests that bankruptcies could rise in the near future.

The recent appreciation of the króna has eased pressure on companies with foreign-denominated debt. In this respect, the position is better than last November. However, it should be remembered that companies not only face a risk from currency depreciation, but from exchange rate fluctuations in general, since these tend to exacerbate differences in business profitability and increase the probability of erroneous business decisions. A sharp strengthening of the exchange rate also entails a risk, especially in sectors where fierce competition prevails, if some companies are more successful than others in the timing of procurement, investment and financial actions, thus gaining competitive advantage and market share.

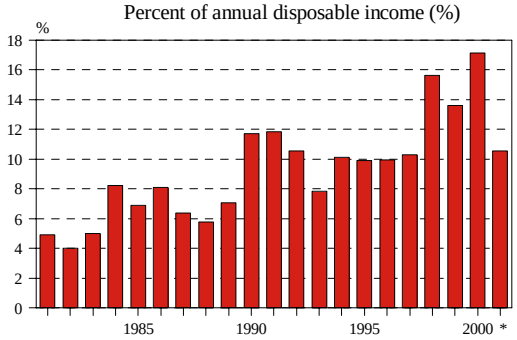
Growing debt service burden of households has greatly tightened their financial positions and could lead to increased default

In order to assess potential risk faced by financial system as a result of the financial position of households, it is necessary to consider the interaction of households' disposable income, i.e. recent and prospective changes in their real disposable income and its distribution, as well as changes in households' debt service burden. In its previous reports on financial stability, the Central Bank has drawn attention to the ever-growing indebtedness of Icelandic households, which is among the highest in the world. The ratio of debt to disposable income was 20% at the end of 1980, 80% at the end of 1990 and is estimated to have risen from 160% in 2000 to 167% last year. Debt accumulation grew at a record pace relative to disposable income in 1998-2000, but slowed down somewhat last year. Iceland's household debt ratio is higher than that of any of the G7 countries for which the OECD publishes annual figures, cf. Chart 13. This debt ratio has also been rising elsewhere, particularly in Germany, where the ratio of debt to disposable income rose from 70% in 1990 to 115% in 2000.[4]

Chart 8

Annual increase in household debt 1981-2001

Percent of annual disposable income (%)



* Preliminary figure for 2001. *Source:* Central Bank of Iceland.

Comprehensive statistics on household debt service burden is not available, but a rough estimate can be made on the basis of available information. The large degree of uncertainty in this assessment must be underlined, since it is partly based on guesswork. Nonetheless, it ought to give some idea of the general trend. Since the middle of the last decade, household debt service roughly doubled as a proportion of disposable income, with the greatest increase taking place in the past three years.[5] Despite the rising debt service burden, households managed to maintain a high and growing level of consumption until last year. There are two reasons for this. One is that real disposable income soared in 1998 and continued to increase fairly quickly in the following years. The other is that each year fresh borrowing overshadowed the increasing burden of servicing the debt.

There are limits to such debt accumulation, however. The point will be reached where households will have to cut back on their debt accumulation or even reduce their indebtedness again. This will require private consumption to grow more slowly than disposable income, or to shrink as happened last year. Then private consumption contracted by almost 3%, although real disposable income went up by almost 2%. Such a turning point is important from the perspective of financial stability.

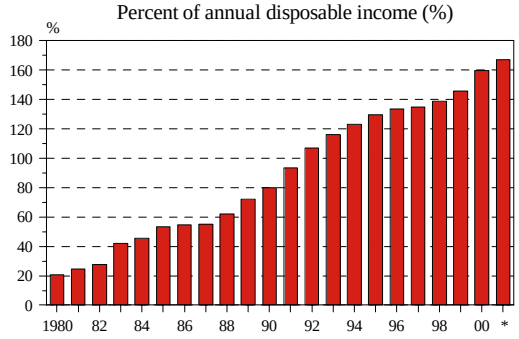
4. International comparisons of household debt are difficult to make. Among the factors to be taken into account are the extent of private housing, the role of student loans in financial support to students, use of price indexation, loan duration, etc.

5. According to rough estimate done by Central Bank staff, the total debt service payments increased from 17% of disposable income in 1990 to about 40% last year. The latter figure may be on the high side, but nonetheless gives an indication of the trend.

Chart 9

Household debt 1980-2001

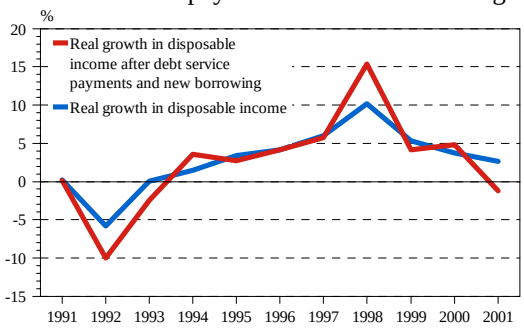
Percent of annual disposable income (%)



* Preliminary figure for 2001. *Source:* Central Bank of Iceland.

Chart 12

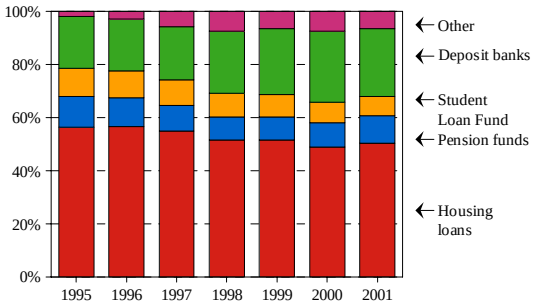
Real growth in disposable income after debt service payments and new borrowing



Source: Central Bank of Iceland.

Chart 10

Household debt to the credit system: breakdown by lenders 1995-2001

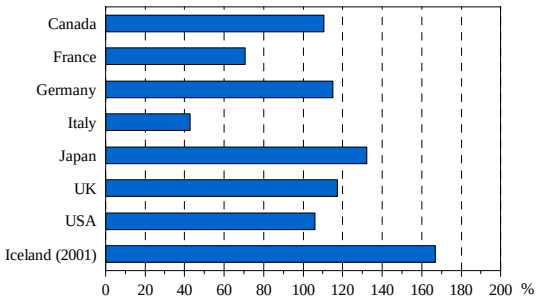


Source: Central Bank of Iceland.

Chart 13

Household debt in selected countries 2000

Percent of disposable income (%)

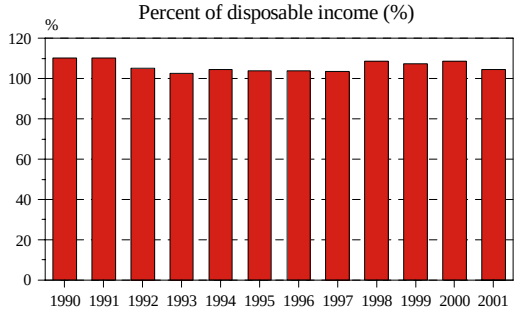


Sources: OECD *Economic Outlook* (December 2001) and Central Bank of Iceland.

Chart 11

Disposable income after net borrowing and interest payments 1990-2001

Percent of disposable income (%)

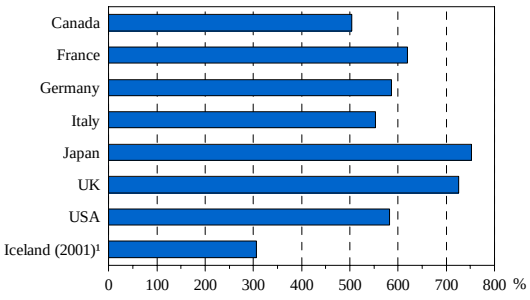


Source: Central Bank of Iceland.

Chart 14

Household net wealth in selected countries 2000

Percent of disposable income (%)



1. Including assets in pension funds.
Sources: OECD *Economic Outlook* (December 2001) and Central Bank of Iceland.

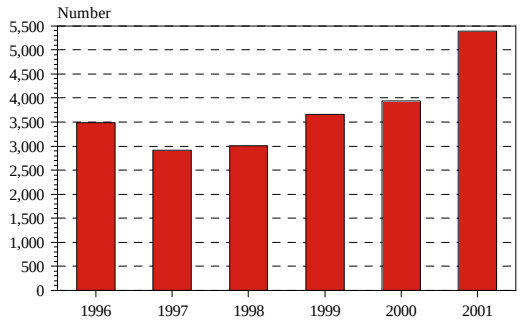
Since 1990, an ever-growing share of households' disposable income has been allocated to servicing debt. From 1994 to 2000, disposable income plus borrowing increased sufficiently to sustain robust private consumption growth. Last year, on the other hand, there was a drop in the funds that households had at their disposal after taxes, debt service and new borrowing, for the first time since 1992 and 1993, i.e. the two years when private consumption last contracted. In 1992, however, disposable income also fell, in contrast to what happened last year.

A high level of indebtedness makes household finances susceptible to the effects of an economic downswing. So far, this has only been put to the test to a small extent. Last year, despite some growth in disposable income, households had less left after debt service. This year real disposable income is likely to remain roughly unchanged at best. On average, real disposable income is basically at the same level as a year ago, but could go down as the year progresses. In the private sector, apart from financial institutions, real disposable income has in fact already declined considerably. According to the wage index, wages in the private sector went up by 6.4% from the first quarter of 2001 to the same period in 2002, while the CPI rose by 8.7%. Real disposable income of a large sector of the labour force therefore dropped by around 2% over this period and will in all likelihood deteriorate further this year. If inflation will be contained, for which the prospects are looking good at the moment, the decline in real disposable income should not be large.

While is still low, unemployment is beginning to increase. This will cause significant drop in the disposable income of those out of work. The increase in joblessness is mainly in the Greater Reykjavík Area where real estate prices are highest and households' debt is probably also highest. If unemployment exceeds current projections, the slight rise of real disposable income of households now forecast by the NEI could turn into a decline. Even if the forecast holds good, real disposable income of households after debt service will clearly decrease even further. An uncertain employment outlook may make households reluctant to bridge this gap with further borrowing, and credit institutions more reluctant to lend to them. The interaction of a higher debt service burden, falling real disposable income for a large number of wage earners and growing unemployment would increase the risk of defaults in the credit system. Such difficulties are already beginning to emerge, as shown by the rise in the number of unsuccessful distraint actions against individuals. However, defaults are still much fewer than they were at the beginning of the previous decade.

Chart 15

Unsuccessful distraint actions against individuals 1996-2001



Source: Lánstraust credit rating agency.

The risk that the financial system faces from indebted households may be determined to some extent by the composition of their debts. Debts such as mortgages, which carry fixed interest, are long-term in nature and have secure collateral, are less likely to cause problems than short-term credit bearing variable interest and with insecure collateral or none at all. From 1996 to 2000, households increased their share of debts with financial institutions , i.e. commercial banks and savings banks and to a lesser extent leasing companies and securities funds. In the period 1998-2000 around half of new household borrowing came from this source. Thus these institutions have been much more susceptible in recent years to the risk posed by the growing debt service burden of households, since this probably mainly involves lending for consumption, for which poorer collateral, if any, is offered than for mortgage debts. Last year, however, household borrowing from financial institutions dropped sharply and only accounted for 6% of new loans. One likely reason is the impact of the growing debt service burden, caused by larger debt stock as well as higher interest rates, along with increasing uncertainty concerning the prospects for disposable income growth. Demand

for housing loans also increased after lending rules were liberalised.

A useful yardstick for assessing the sensitivity of the financial position of households is the interest burden in real terms, i.e. the ratio debt service to disposable income required to prevent household debt from increasing in real terms. If this ratio is high, there is a greater risk that the debt position of many households will become unmanageable. Since 1990 it has increased from 3.6% of disposable income to 11%. Higher interest rates play a part here, but are not the main reason. A rise of 1% in all interest rates increases the debt service burden, under the current level of indebtedness, by roughly 1.7% of disposable income. Average interest rates on lending to households rose from 4.8% in real terms in 1990 to 6.5% last year. The rise in average real interest rates can largely be attributed to the lower share of older, low-interest loans in total household debt, but also to the fact that a larger proportion of household borrowing has recently been outside what may be called the social credit system, namely the Housing Financing Fund, Student Loan Fund and to some extent the pension funds. On its own, the rise in average real interest rates would have raised the repayments burden by 1.2% of disposable income. The remainder of the rise in the real interest rate burden, or 6.2%, can almost entirely be explained by larger outstanding balance on debt. The bulk of household borrowing is long-term. By a rough estimate, the average remaining length to maturity is around 12 years, and it can be assumed that well over 80% of these loans are indexed. The great majority of other loans than housing and student loans, however, carry variable interest rates. the frequency of interest rate changes being highest with deposit institutions, which hold a quarter of household debt.

The financial position of households has become substantially more sensitive in recent years. Their indebtedness is running so high that a marked reduction in their disposable income can substantially constrict their financial position, especially if the debt service burden increases due to higher interest rates or high inflation. The financial position of households is more prone to a surge in inflation than higher interest rates, because the bulk of household debt is price-indexed with fixed interest rates. The greatest risk involves the combined effect of dwindling

Box 1 Has the public sector kindled household debt accumulation?

The degree of indebtedness and debt accumulation by households have been a cause of concern. One immediate explanation is that the government encourages household debt accumulation, on the one hand by providing virtually all support for homebuyers and students in the form of loans, and on the other hand by providing loans with extremely back loaded terms of payment. Taking interest rebates into account, the burden of servicing an indexed-annuity housing loan may even grow with time. Furthermore, as a result of the increasing use of the backloaded annuity form of payments the accumulation of debt can be a highly protracted process. Although 25 years is the most common maturity in the housing loan system, this can be extended to up to 40 years and many people presumably borrow more than once, most often up to a maximum determined by their estimated debt service capacity. Assuming, for the sake of simplicity, that the typical debtor in the housing system borrows for 30 years and makes annuity repayments, and that the amount lent each year remains constant, the outstanding loan stock will reach 70% of its ultimate size after 15 years, which happens to be the time elapsed since the rapid growth of the housing loan system began. The stock of housing debt will therefore keep on growing significantly for a while if the incentive to borrow is not reduced. Housing loans and student loans, however, do not explain the increase in household debt outside these systems over the period of 1996-2000, when debt to the banking system, leasing companies and insurance companies rose from just under 80 b.kr. to more than 200 b.kr., in terms of year-end prices in 2001. An explosion of this magnitude can only be explained by a combination of abundant supply of funds and strong demand, which may have built up during the downswing of 1992-1995 when households postponed the replenishment of consumer durables and investment was depressed.

real disposable income, growing unemployment and inflation,while the conceivable damage that the financial system could suffer on account of such a development is partly determined by the quality of the collateral against which some of the debt is secured. This will be discussed in the following section.

Residential property prices on the decrease in real terms

A large proportion of the loans provided by the credit system is secured against collateral in the form of real estate. The quality of this collateral therefore has a great impact on the underlying stability of the financial system. For example, the problem of the Japanese banking system, which has persisted for a decade, can largely be traced to the fact that collateral originally regarded as secure fell in value. If credit institutions consider that there is secure collateral for the loans they might grant, they could become less cautious in evaluating the debt service capacity of debtors. The consequences can be serious if their judgement concerning the quality of collateral and debt service capacity of debtors prove wrong. Intermittently a systemic tendency seems to arise to overestimate the value of real estate which is supposed to secure loan repayments. Bubbles form in the real estate market and when prices adjust again, the collateral proves inadequate for covering the outstanding balance and interest in arrears. The surge in real estate prices in recent years now seems to be over. The question is to what extent the rise in real estate prices in real terms in recent years will be reversed, causing deterioration in collateral.

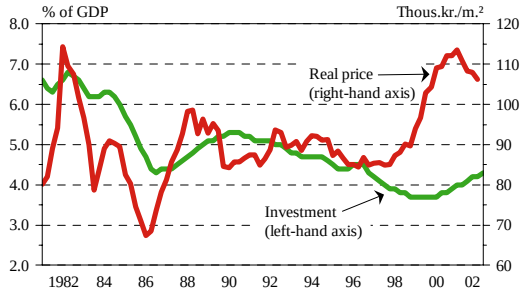
Prices of residential accommodation in the Greater Reykjavík Area apparently peaked early last year. One of the best criteria is the price index for apartments in multiresidential housing units in the Greater Reykjavík Area, since these are relatively numerous and turnover relatively large. Their value has remained fairly stable in nominal terms since the beginning of 2001, but fallen in real terms by the equivalent of the rate of inflation. On a year-on-year basis, the price of residential property was at a low in real terms in 1997, but had risen by 30% from that low in 2000 and 2001. More specifically, prices in real terms peaked during the first quarter of last year, but had dropped by 7% since then in the first quarter of this year. The price of single family units in the Greater Reykjavík Area has fallen farther in real terms than that of apartments in multiresidential units. Regional real estate prices, on the other hand, which did not follow price increases in and around Reykjavík during the boom years, have been rising.

High residential property prices make construction lucrative and if price rise far in excess of construction cost it poses a risk of a glut which will push them back down. Investment in residential property was depressed right up until 2000, but this year it will be the highest since 1973, if the NEI forecast holds good. Housing prices and, later on, residential construction were driven by the economic upswing from 1998-2000 and annual population growth of around 2% in the Greater Reykjavík Area. The rise in population was to a large extent caused by an influx of people from the rest of the country and abroad. The economic slowdown in the Greater Reykjavík Area and the upswing in the fisheries sector make it likely that the migration will weaken or even be temporarily reversed. Increased supply of residential property, the cooling economy and slower population growth in Reykjavík and neighbouring communities are likely to put a downward pressure on the price of residential property for some time to come. This will lead to a further rise in collateral ratios, which have already gone up substantially, on account of rising debt levels, as result of new borrowing as well as inflation, which has pushed up the value of indexed debt in recent years. Whether this will lead to difficulties for the financial system will depend on the development of employment and real disposable income. As long as employment remains strong and real disposable income does not diminish significantly, the ability of households to service their debt should generally not be at serious risk. Defaults will probably increase later, however, as pointed out above.

The purpose of this report is to evaluate the risk posed to the financial system by adverse economic developments, rather than to assess its stability on the basis of what is considered the most likely scenario at any time. There is always a risk that the assumptions on which forecasts are based will turn out to be overoptimistic. A high level of indebtedness heightens the risk of a vicious circle if the economy suffers shocks. For example, if disposable income of households shrinks sharply, their debt service capac-

Chart 16

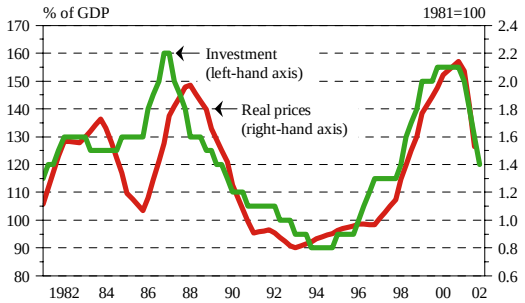
Quarterly real housing prices[1] and investment in housing 1981-2002



1. Multiresidential housing in Greater Reykjavík Area. Prices are fixed at the average level in 2001, based on the credit terms index.
Sources: Land Registry of Iceland and National Economic Institute.

Chart 17

Quarterly real prices and investment in retail and office commercial property 1981-2002



Sources: Land Registry of Iceland, National Economic Institute, Central Bank of Iceland.

ity could be severely impaired at the same time as the value of the collateral which is supposed to secure the repayment of loans falls. If credit institutions need to liquidate this collateral on a large scale, asset prices are likely to drop even further, etc. Such conditions would make credit institutions more reluctant to provide new lending to households, which would intensify the contraction in private consumption, have a negative effect on the employment situation and lead to financial insecurity. This could lead to a persistent spiral of falling real estate prices, diminishing collateral and dwindling household disposable income.

Nominal and real prices of commercial real estate on a rapid downward trend

The market for commercial real estate is much more prone to swings than that for residential property. Prices of commercial premises rose by around 75-100% in excess of inflation between the low in 1991-1997 and the peak in 2000-2001. Last year prices seem to have fallen considerably, although reservations have to be made concerning the reliability of quarterly figures. Estimated prices during the first quarter of 2002 were 15-25% lower in real terms, depending on the method of calculation, than at the same time the year before, corresponding to a nominal drop of 8-18%.

The upswing in prices of commercial property was accompanied by a heavy wave of investment. Average investment in retail and office space in 1998-2000 was equivalent to 2.1% of GDP, the highest on record for a three year period. The previous three-year record was 1.9% of GDP in the period 1986-1988. This year investment is expected to decrease, and a sizeable amount of commercial property is vacant at present. Based on the experience of previous upswings, there is a considerable risk that the investments of recent years will prove a heavy burden for some developers in the fairly near future and could in some cases lead to defaults. If the number of corporate bankruptcies increases in the next few years, the supply of commercial structures could increase even further. However, it should be borne in mind that key export industries are probably stronger at present than at the height of the last investment boom in the service sector. The probability of protracted slump in the construction sector should consequently be relatively small.

Equity prices pose limited risk to the financial system

Equity prices have rallied this year after taking a dive which bottomed out in August and September 2001. The ICEX Main index has risen by 35% from its lowest point. In the marine sector and pharmaceuticals share prices have risen even more. As far as pharmaceuticals are concerned share prices largely escaped the dive in 2001. The stocks of transportation and IT companies have suffered more, however. The recession. along with a cautious mood in capital markets and memories of 40-50 percent drops in share prices from the peak in the first half of 2000 make financing in equity markets much harder than at the peak of equity prices. This applies in particular to various up-start businesses in the IT sector. Losses on financial institution equity portfolios have sub-

sided, and looking ahead, risks associated with equity prices seem small, especially in comparison with the risk inherent in real estate price trends.

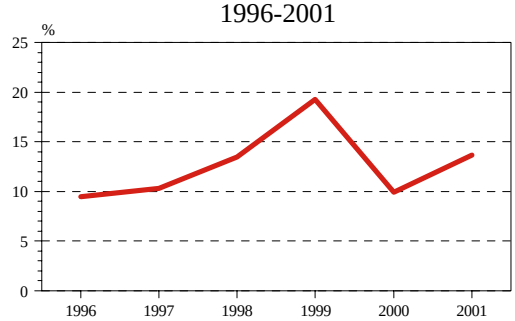
Aggregate microprudential indicators

Profitability increased …

The return on equity of commercial banks, the largest savings banks and the investment banks[6] peaked in 1999 then fell again in 2000. In 2001 another turnaround took place with ROE increasing to reach its highest level since 1996. Despite an overall improvement, results varied between financial institutions. Of the twelve examined here, three produced a loss before taxes and one was close to zero. ROE increased at the three largest commercial banks while at the others it either fell or remained unchanged from 2000. Profitability that year and to some extent last year was exceptional insofar as several savings banks sold their shares in Kaupthing then or accounted for all or part of their shareholdings in it at market prices, enabling them to post a considerable profit. Another factor to take into account was that their improved performance last year is to a large extent explained by the cut in the corporate income tax rate and a wider interest rate margin due to inflation then. Profit before taxes at the commercial banks, six largest savings banks and two investment banks in 2001 amounted to 8 b.kr., of which an estimated 2 b.kr. was posted as income due to the effect of the lower tax rate on their deferred tax commitments, while higher inflation can be assumed to have had a positive impact on their profits and assets to the tune of 3 b.kr.[7] These accounting items will not have the same effect on profits for the year 2002 as they did last year. One change will be made to business accounting principles this year, whereby inflationary accounting adjustments are no longer mandatory. Most financial institutions have announced that they do not intend to apply inflationary accounting principles this year, which will leave profit for the year 2002 higher than otherwise.[8] This will also facilitate comparisons with the accounts of foreign businesses.

Chart 18

Financial institutions' return on equity[1] 1996-2001

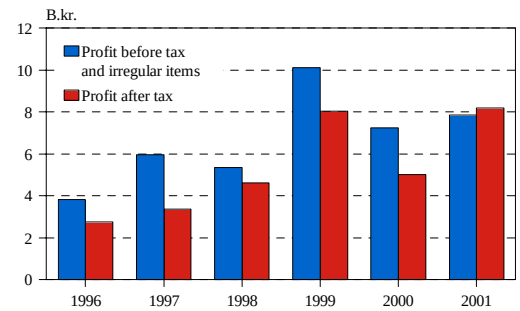


1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

Financial institutions made greater provision for loan losses last year than the year before. Higher contributions may be needed, as discussed later. The overall effect that this will have on financial institutions' profits in 2002 is impossible to state. Nonetheless, the profitability of most financial institutions is

Chart 19

Profit before and after tax[1] 1996-2001



1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

6. i.e. Íslandsbanki, Landsbanki Íslands, Búnadarbanki Íslands, Icebank and the 6 largest savings banks: Reykjavík Savings Bank (SPRON), Hafnarfjördur, Sparisjódur vélstjóra, Keflavík, Kópavogur and Mýrasýsla. Kaupthing and Frjálsi Investment Bank are the investment banks referred to, although Kaupthing received a permit to operate as a commercial bank in the beginning of 2002 and changed its name to Kaupthing Bank.

7. Items in their annual accounts which are subjected to price adjustments were examined to see what the impact on their 2001 performance would have been if inflation had been the same then as in 2000. This would have reduced their profits and asset values by around 3 b.kr.

8. The impact of changes in price level on monetary assets and liabilities is calculated and entered in the annual accounts as an expense item.

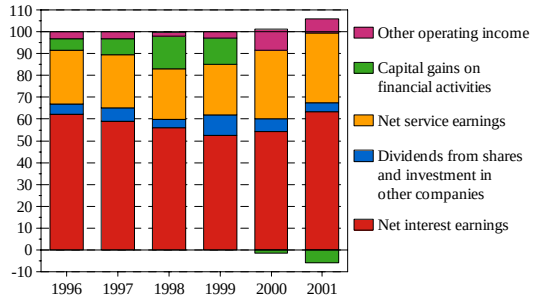
likely to be satisfactory unless an unexpected downturn takes place in the securities markets or they sustain exceptional loan losses. At the time of writing the three largest commercial banks have announced good interim results for the first quarter of 2002.

… and net interest earnings grew considerably between the years …

Total income of financial institutions grew considerably last year, despite the second consecutive year of losses on their securities portfolios. As shown in Chart 20, net interest earnings[9] were the largest source of income for financial institutions. This item rose by 40% between the years, or 30 b.kr., in part as a result of inflation in 2001.[10] Traditional deposit and lending activities therefore delivered a good profit. Less growth in interest income can be expected in 2002 since inflation is forecast at 2.8% over the year and credit growth has dropped substantially.

Chart 20

Breakdown of income by type[1] 1996-2001



1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

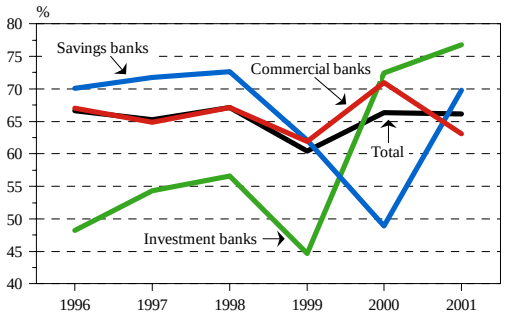
Their second largest income item was net service earnings, which were up by 2.8 b.kr., or just over 22%, last year. In 2001 they witnessed a drop in dividends from shares and investments in other companies, capital gains on financial activities and other operating income, compared with the previous year. This income can be expected to increase in 2002, since equity prices have risen since the beginning of the year and bond market yields have fallen to some extent.

…while the cost-income ratio remained unchanged

The cost-income ratio, i.e. operating expenses as a proportion of net operating revenue, remained to all intents and purposes unchanged at 66.1% in 2001, compared with 66.3% in 2000. At the commercial banks, the cost-income ratio improved considerably in 2001, although it can be asserted that several financial institutions still have scope for reducing their ratios, which are fairly high by international comparison. Most financial institutions were close to the average but the largest one, Íslandsbanki, had one of the lowest ratios at 55%, while Kaupthing Bank had the highest at 83.2%. As pointed out in *Monetary Bulletin* 2001/2 and the 2001/4, cost-income ratio is not a flawless measure, since operating income is prone to swings, meaning that the cost ratio may change sharply from one year to the next. On the whole this ratio has been fairly stable in recent years.

Chart 21

The cost ratio[1] 1996-2001



1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

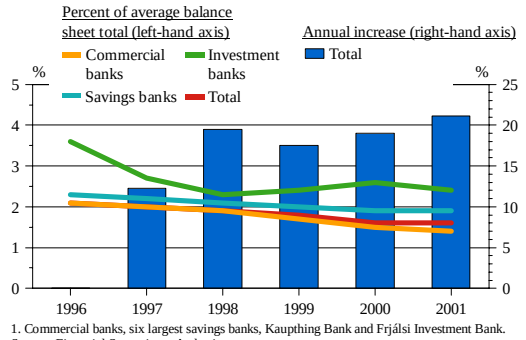
Financial institutions' wages and wage-related expenses increased by 21% last year. This item has shown quite a rise in recent years in line with increased staffing. As a proportion of average balance sheet totals, however, wages and wage-related expenses have been going down in recent years, reflecting the growth in investment banking activities, which are not as labour-intensive as pure commercial banking.

9. Net interest earnings are defined as interest income less interest expenses.

10. The banks' price-indexed assets are greater than their price-indexed liabilities. At the commercial banks and six largest savings banks, the difference amounted to just over 77.6 b.kr. at the end of 2001, but 84.6 b.kr. at the end of 2000.

Chart 22

Wages and wage related expenses[1] 1996-2001



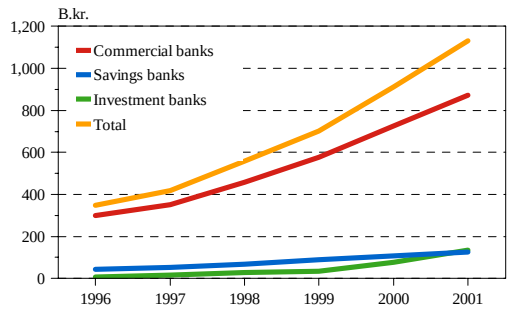
1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

Balance sheets have swelled …

Combined balance sheet totals of the commercial banks, six largest savings banks and two investment banks at the end of last year amounted to 1,130 b.kr., compared with 350 b.kr. at the end of 1996.[11] Financial institutions have undergone this change not only through organic growth, but also by acquisitions of or mergers with other financial institutions, both in Iceland and overseas.

Chart 23

Balance sheet totals[1] 1996-2001



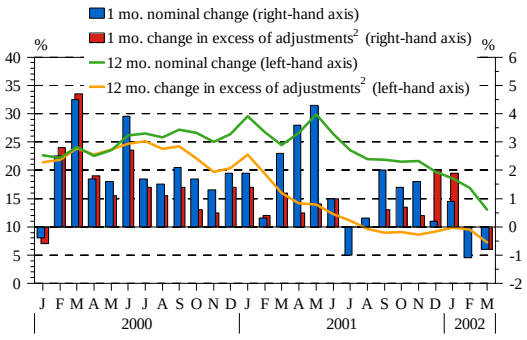
1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank.
Source: Financial Supervisory Authority.

… but credit growth slowed down …

The growth in lending by deposit banks slowed down in 2001. From the beginning to the end of 2001, their lending increased by 17.5%, or 105 b.kr. The previous year's increase had been 26.4%. More than 40% of deposit banks' lending is denominated in foreign currencies and one-third is price-indexed. Eliminating the exchange rate and price impact, last year's credit growth was just over 7%. The rate at which lending has been growing has clearly slowed down sharply and so far this year the trend has been continuing. The twelve-month increase in lending until the end of March was 13% and eliminating the exchange rate and price impact leaves this figure at just over 7%.[12]

Chart 24

Growth in deposit banks' lending[1]



1. Lending by Kaupthing Bank included since January, 2000. 2. In excess of automatic increases due to exchange rate and price indexation. *Source:* Central Bank of Iceland.

In 2001, lending by investment credit funds increased by 23%, or 80 b.kr. Of this figure, the Housing Financing Fund accounted for more than 56 b.kr. Total outstanding credit system lending to individuals and businesses amounted to more than 1,200 b.kr. at the end of 2001 and grew by over 16.5% during the year compared with a rate of more than 20% in 2000. Lending growth therefore slowed down considerably in 2001.

After lending growth peaked in 2000, credit institutions have clearly tightened their grip and many have devoted considerable efforts to developing risk management strategies for their lending portfolios. More stringent demands are also made concerning collateral for derivative contracts.

11. Adjusted for the merger of FBA and Íslandsbanki and the investment funds from which FBA was established.

12. Kaupthing Bank is included with deposit banks as of January 2002 inclusive. These figures, however, include Kaupthing Bank as a deposit bank since January 2000.

… and loan portfolio quality deteriorated …

Data from the Financial Supervisory Authority (FME) show an increase in defaults on loans from commercial banks and savings banks in 2001, after running at a relatively low level in recent years. Defaults by individuals and businesses, defined as arrears of thirty days or more with the four commercial banks and six largest savings banks, amounted to 20.3 b.kr. at the end of 2001, but were 12 b.kr. at the end of 2000. As a proportion of lending, defaults rose from 2% at the end of 2000 to 3% at the end of 2001. Defaults by individuals amounted to just over 7.8 b.kr. and business defaults 12.5 b.kr.

Non-performing loans[13] as a proportion of total lending amounted to 2.6% at the commercial banks and the six largest savings banks at the end of 2001, having been 2% at the end of 2000. This ratio is therefore on the increase again, after dropping from 6.4% in 1995. The proportion of write-offs at the end of 2001 was 0.5%, as against 0.34% at the end of 2000, when it appeared to bottom out. At the end of 1995 this ratio was 1.8%.

Bearing in mind the above remarks about the high level of indebtedness of businesses and households, and last year's rise in unsuccessful distraint actions and bankruptcies, loan losses by financial institutions will conceivably increase in the near future. Such loan losses could eat into their profits.

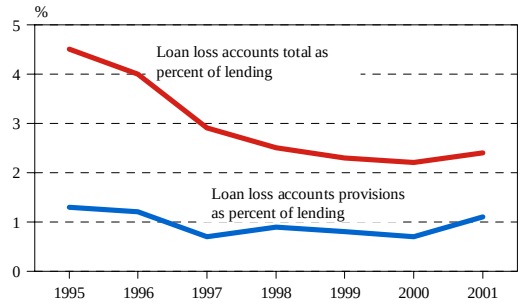
… while provisions to loan loss accounts increase

Financial institutions have started to respond to the higher risk of loan losses and in 2001 the commercial banks and six largest savings banks posted 7.6 b.kr. in provisions to loan loss accounts, compared with 4.1 b.kr. in 2000. As a proportion of total lending, these provisions amounted to 1.1% in 2001, as against 0.7% in 2000. The same trend is shown by the ratio of loan loss accounts to total lending, which went up from 2.2% in 2000 to more than 2.4% last year. Nonetheless, these ratios were higher in the early 1990s when the last downswing took place.

13. Loans for which special provisions have been posted, less the provisions on the loan loss reserve but including other interest-frozen loans and redeemed assets on foreclosed mortgages.

Chart 25

Loan loss accounts totals and provisions as percent of lending[1]



1. Commercial banks and six largest savings banks. *Source:* The Financial Supervisory Authority.

Capital ratio rose …

The capital ratio of the commercial banks, six largest savings banks and two investment banks rose in 2001 to reach an average of 11.5% at the end of the year, compared with 9.9% at the end of 2000. It strengthened as the joint result of higher profits and more subordinated loans during the year. This was a sizeable turnaround from the year before, and the highest capital ratio recorded since 1997. Tier I Capital decreased repeatedly until the end of 2000, then rose somewhat in 2001 to 9.2% at the end of that year. Financial institutions clearly have more scope now than last year in terms of capital ratios, although it should be remembered that in a historical context the ratio is still relatively low.

… and the share of subordinated loans increased …

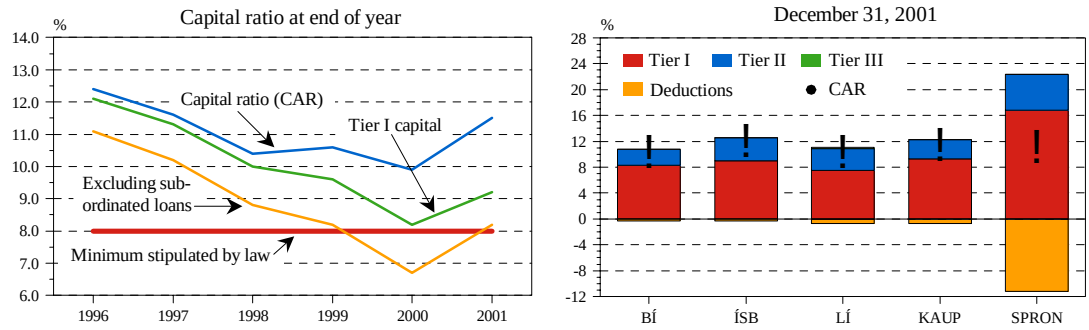
At the end of 2001, subordinated loans at the deposit banks and Kaupthing amounted to 35 b.kr., as against just over 22 b.kr. at the beginning of the year.[14] More than 40% of subordinated loans have been taken abroad.

Tier I Capital increased last year, as mentioned above. Capital qualifying as Tier I with the commercial banks, six largest savings banks and two investment banks amounted to 57.8 b.kr. at the end of 2000 but was 79.5 b.kr. at the end of 2001. Over the same period, subordinated loans qualifying as Tier I Capital increased from 900 m.kr. to 6.3 b.kr. Thus 25% of growth in Tier I Capital can be attributed to subordinated loans.

14. For a definition of subordinated loans, see Appendix 1 on p. 58.

Chart 26

The capital ratio of commercial banks, savings banks and investment banks[1] 1996-2001



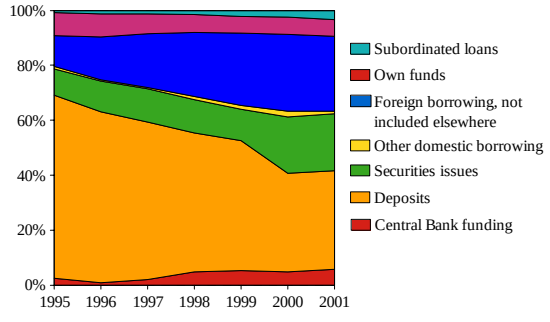
1. Commercial banks, six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank. *Source:* Financial Supervisory Authority.

As pointed out in Appendix 1, Iceland's capital adequacy rules are based on the harmonised minimum requirements in EEA law and the Basel Rules of 1988. The Basel Committee and EU Commission are now in the process of reviewing these international requirements. Icelandic authorities and credit institutions have been observing the proposals which are being formulated on this topic. The new capital adequacy rules are expected to be much more detailed and complex than those currently in force. Uncertainty still surrounds the substance of the final proposals, but it is clear that the new rules will have a major impact on activities of credit institutions and securities houses. Although the new rules are not scheduled to enter into effect until 2005, major international financial institutions have already launched preparations for adapting their activities to the new environment that the rules will create. Among other things, they will affect minimum capital ratio, financing costs, credit terms and credit institutions' information systems. More stringent requirements can be expected. The presumable effect of the new rules on Icelandic credit institutions remains unclear, however. Icelandic credit institutions need to evaluate the impact of the pending rules on their activities and begin preparations to adjust to new requirements if these have not already been launched.

The current situation is explained in Appendix 1, which describes what constitutes capital and how the capital ratio is calculated. An account is also given of the scope available to several of the financial institutions, based on their position at the end of 2001, to boost their capital ratio with subordinated loans. Preparations for a review of the capital adequacy rules will be described later.

Chart 27

Deposit banks' funding 1995-2001



Source: Central Bank of Iceland.

… but funding similar between the years

Chart 27 shows how the deposit banks' funding has changed since 1995. A major change took place between 1999 and 2000, when Íslandsbanki hf. and FBA hf. merged, although no adjustment has been made for this on the chart. Nonetheless, the importance of deposits in funding their activities has declined, while borrowing and securities issues have acquired increasing weight. Securities issues are mainly made overseas, which accounted for 75% of deposit banks' issues at the end of 2001. These mainly involve MTN (Medium-term note) issues, which have enabled the main banks to cut their costs in recent years and spread their funding to reduce

dependence on the foreign bank lending market. German and Japanese investors have shown the most interest in Icelandic bond issues, but others now appear to be paying them attention. Other borrowing is also largely taken abroad. At the end of 2001, just under 50% of deposit banks' funding was procured outside Iceland, compared with 20% in 1995.

Work on payment system development well under way …

On June 12, 2001 the IMF published the results of its Financial System Stability Assessment (FSSA) for Iceland. Among the evaluations made was whether Icelandic payment systems fulfilled the BIS Core Principles for reliability, transparency and operational efficiency. In short, the FSSA found that Iceland's payment systems were a long way from fulfilling their requirements. One shortcoming, for example, was the lack of clear requirements for risk analysis, risk management and collateral securities for settlements. At that time, extensive work was already under way aimed at putting Iceland's payment systems into an internationally acknowledged framework.

In collaboration with credit institutions, the Icelandic Banks' Data Centre (RB) and the netting system provider FGM, the Central Bank drew up proposals last year for corrective action, on which consensus was reached at the end of the year. Work then began on implementing them. The reforms extend to both the Central Bank of Iceland real-time gross settlement system and the FGM netting system. RB is now at work on making necessary modifications to software systems. These changes will entail new requirements towards credit institutions regarding risk management and collateral securities for settlements. It is aimed to achieve full compliance with the Core Principles by the middle of next year.

… and a review of the securities settlement system has begun

Under the auspices of the Central Bank, Iceland Stock Exchange and Central Securities Depository of Iceland, a review of the framework, nature and principles of securities settlements is now being prepared. A securities settlement system may be defined as a system for confirmation of trading terms, clearance of entitlements and obligations deriving from such trading, delivery of securities from seller to buyer, and payment from buyer to seller. It is aimed to complete the review next autumn.

Financial stability microprudential indicators 1997-2002

Capital ratios[1]	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*Date*
Solvency ratio ratio[1] by legal definition (%)	11.6	10.4	10.6	9.9	11.5	...	.
Solvency ratio excl subordinated loans (%)	10.2	8.8	8.2	6.7	8.2	...	.
Capital adequacy ratio Part A (Tier I) (%)	11.3	10.0	9.6	8.4	9.2	...	.
Quality of assets							
Credit institutions							
Total lending (m.kr.)[2]	308,459	385,742	475,784	601,522	705,334	722,047	March
Thereof foreign-denominated (%)	31.8	34.4	36.5	41.6	44.3	41.4	March
Sectoral breakdown of lending							
Households (% of total lending)[3]	26.6	27.9	27.3	27.5	25.5	26.3	March
Thereof foreign-denominated (%)	0.5	1.8	4.8	8.1	10.4	9.7	March
Thereof residential housing-related (%)	21.3	18.7	20.2	18.3	16.1	15.1	March
Businesses (% of total lending)	65.2	64.8	65.7	65.2	64.2	63.3	March
Thereof foreign-denominated (%)	46.8	49.8	50.6	55.6	54.7	53.6	March
Fisheries sector (% of total lending)	29.4	27.7	24.8	22.9	21.2	20.5	March
Thereof foreign-denominated (%)	79.1	83.3	83.9	86.5	86.8	87.1	March
Retail and services (% of total lending)	19.8	24.8	28.6	29.4	30.0	29.9	March
Thereof foreign-denominated (%)	15.2	19.5	29.5	37.0	36.1	34.1	March
Manufacturing, transportation, electricity and construction sectors (% of total lending)	16.0	12.3	12.2	12.9	13.0	12.9	March
Thereof foreign-denominated (%)	26.7	35.5	32.4	43.0	45.3	45.2	March
Foreign sector (% of total lending)	.	.	.	.	3.6	4.5	March
Thereof foreign-denominated (%)	.	.	.	.	99.4	67.7	March
Non-performing loans[4] (% of total lending)	4.1	2.4	2.2	2.0	2.6	...	.
Equity as a percentage of total assets	8.7	7.4	7.1	6.3	6.6	...	.
Borrowers							
Households							
Household debt (% of disposable income)	134.7	138.7	145.8	159.5	167.0	...	.
Number of private bankruptcy rulings	333	463	421	446	289	88	Q1
Number of unsuccessful distraint actions	2,919	3,001	3,662	3,941	5,393	1,762	Q1
Businesses							
Debt as a percentage of equity							
Publicly listed companies (excluding banks)	1.96	1.85	1.96	2.21	2.27	...	.
Fisheries sector	1.67	1.75	1.87	2.57	2.59	...	.
Retail, construction and services	2.10	2.39	2.28	1.94	1.71	...	.
Manufacturing and production	0.41	1.11	1.40	1.62	1.72	...	.
Information technology	.	2.80	2.28	1.90	2.60	...	.
Number of corporate bankruptcy rulings[5]	197	248	253	298	361	118	Q1
Number of unsuccessful distraint actions[5]	698	669	951	1.214	2,176	498	Q1
Profitability							
Publicly listed companies (excluding banks)	8.0	8.2	7.3	9.2	11.0	...	.
Fisheries	16.5	17.8	14.7	17.2	28.2	...	.
Retail, construction and services	9.3	4.7	5.6	14.7	12.6	...	.
Manufacturing and production	10.7	9.3	7.5	13.2	13.5	...	.
Information technology	.	6.1	8.7	9.6	1.2	...	.
Management[1]							
Cost ratios (% of net operational revenues)							
Operating expenses	65.3	67.1	60.4	66.3	66.1	...	.
Labour cost	33.6	35.2	31.2	33.2	33.6	...	.

Financial stability microprudential indicators 1997-2002 (continued)

Profits and profitability[1]	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*Date*
Return on assets	0.9	0.9	1.3	0.6	0.8	...	.
Return on equity	10.3	13.5	19.3	9.9	13.7	...	.
Interest margin (% of total revenue)	58.9	56.0	52.4	54.3	63.4	...	.
Commissions (% of total revenue)	24.5	23.1	23.1	31.4	32.1	...	.
Value adjustments of other financial operations (% of total revenue)	7.5	15.0	12.0	-1.4	-5.9	...	.
Dividends from shares, other holdings, etc. (% of total revenue)	6.1	3.9	9.6	5.9	4.0	...	.
Other income (% of total revenue)	3.1	1.9	2.9	9.8	6.5	...	.
Liquidity position							
Central Bank funding of financial institutions (b.kr., position at end of year)	.	22.8	36.0	46.9	68.7	80.7	April 30
Deposits as ratio of broad money (M3)	0.97	0.97	0.97	0.98	0.98	0.98	March
Lending as ratio of deposits	1.29	1.46	1.53	2.07	2.09	2.04	March
Liquidity ratio (short-term assets as ratio of debts (< 3 months)	.	.	.	1.20	1.21	1.24	March
Market risk							
Foreign exchange market							
Effective exchange rate of Icelandic króna (% change between years)	-1.4	-0.7	-3.0	9.8	16.9	-6.8	April
Effective exchange rate of Icelandic króna (standard deviation)	1.0	0.9	1.3	4.1	9.1	2.6	April
Turnover (b.kr.)	.	401.8	468.0	768.0	1,218.0	251.6	April
Equity market							
ICEX-15 (% change between years)	14.7	9.8	47.4	-19.3	-11.2	13.8	April
Market capitalisation (b.kr.)[6]	151.0	231.9	369.8	397.2	428.0	480.1	March
Market capitalisation (% of GDP)[6]	28.5	39.9	57.6	59.5	57.0	60.7	March
Turnover velocity (over latest 12 months)	15.6	17.2	32.4	50.6	32.3	38.7	March
Bond market							
Commercial banks' credit ratings							
Short-term (Moody's)	.	.	.	P1-P2	P1-P2	P1-P2	April
Long-term (Moody's)	.	.	.	A2-A3	A2-A3	A2-A3	April
Short-term (Fitch)	.	.	.	.	F1	F1	April
Long-term (Fitch)	.	.	.	.	A	A	April
Interest rate differential with abroad (3-m. T-bills)	2.7	3.4	5.7	6.3	7.9	6.0	April
Product prices							
Marine product prices in foreign currency terms (1990=100)	110.0	123.9	121.1	124.3	129.1	132.0	March
Fish quota prices (long-term cod quota, kr./kilo)	650	758	771	860	709	778	April
Aluminium prices US$/ton	1,592	1,336	1,364	1,551	1,445	1,381	March
Real estate market							
Residential housing prices (January 1996=100)	104.4	111.8	136.1	154.5	159.5	161.5	February
Commercial property prices (1995=100)	112.7	135.2	172.1	205.7	189.4	164.5	Q1

1. Commercial banks, six largest savings banks and one investment bank. 2. Deposit money banks, adjusted for FBA and Commercial Loan Fund. 3. Item "miscellaneous" also includes individuals' private business operations. 4. Commercial banks and six largest savings banks. FBA included as of 1999. 5. Source: Lánstraust credit rating agency. Figures for first quarter 2002 are liable to change.

Appendix 1 Requirements for the solvency ratios of credit institutions and scope for taking subordinated loans

Definition of solvency ratio and provenance of rules

The solvency ratio of credit institutions is defined as the ratio of own funds to risk liabilities (the risk-weighted base). Section VI of Act no. 113/1996 on Commercial Banks and Savings Banks and Art. 10 of Act no. 123/1993 on Credit Institutions other than Commercial Banks and Savings Banks, with subsequent amendments, and Rules no. 693/2001, state the requirements for credit institutions' solvency ratios.

Icelandic rules on solvency ratios are based on the harmonised minimum requirements in EEA law and the Basel rules of 1988. The rules combine requirements for own funds and solvency ratio of credit institutions with respect to lending risk, cf. Directive no. 2000/12/EC, and capital adequacy of credit institutions (and enterprises engaged in securities services) on account of market risks, i.e. foreign exchange risks, position risks, counterparty/settlement risks and specific risks of large exposures, cf. Directive no. 93/6/EEC.

Parts A, B and C (Tiers I, II and III)

Own funds of credit institutions are defined in Art. 54 of Act no. 113/1996, cf. Art. 10 of Act no. 123/1993, and classified into Tiers, i.e. Parts A, B and C. The rules specify what each part shall consist of, and their relative weightings.

Own Funds Part A consist of paid-up share capital, reserve funds, share premium account, retained earnings after deducting the loss for the year, and the revaluation account according to inflation accounting principles. From these are deducted own shares, goodwill and other intangible assets, and also any foreseeable off-balance sheet tax charges which reduce the ability of the institution to cover future losses. According to Regulation no. 852/2000, cf. Regulation no. 964/2000, subordinated loans may be included under Part A if they do not specify a due date and have limited interest payments which may first begin 10 years from the date of issue, provided that the Financial Supervisory Authority authorises such repayment. Own Funds Part A must constitute at least half of own funds prior to deduction (see below). At the same time, subordinated loans counted in Part A cannot exceed 15% of total Own Funds Part A.

Own Funds Part B consists of a subordinated loans and the revaluation account not included in Own Funds Part A. To qualify for Own Funds Part B, the repayment period of a subordinated loan must be at least five years and in the event of bankruptcy, repayment must be subordinate to all claims against the institution other than the repayment of share capital or guarantee capital. When five years of the loan period remain, the amount of the loan shall be scaled down by 20% for each of these remaining five years. The maximum total amount of Own Funds Part B may be no more than 50% of Own Funds Part A.

Own Funds Part C consists of subordinated loans with a repayment period of not less than two years on which payments may not be made if the solvency ratio of the institution in question falls below 8%. The maximum total amount of Own Funds Part C must not exceed 50% of Own Funds Part A. The maximum total amount of Own Funds Part C cannot exceed 4.8% of the institution's risk-weighted base due to items of the trading book subject to market risks and foreign-exchange risk.

Deduction

According to Art. 55 of Act no. 113/1996, the book value of shareholdings and subordinated loans held by the institution in any other companies which engage in financial activities must be deducted from own funds if (a) the shareholdings amounts to more than 10% of the share capital of the companies in question, or (b) the shareholding amounts to up to 10% of the share capital of the companies in question and also is in excess of 10% (i.e. the amount in excess of that limit) of the own funds of the institution. Shareholdings and subordinated loans made to subsidiaries which engage in insurance activities or comparable activities shall be deducted from own funds when calculating the solvency ratio. Furthermore, shareholdings in companies which are not engaged in banking activities must be deducted from

Table 1 Division of own funds and scope for taking new subordinated loans in the commercial banks, six largest savings banks and investment banks (based on annual accounts for 2001)

B. kr .	Qwn funds A Other than subordinated	Qwn funds A Subordinated	Qwn funds B	Qwn funds C	Deduction from own funds	Risk-weighted base	Solvency ratio (%)	Solvency ratio with advantage taken of scope (%)[1]
Búnadarbanki Íslands	12,911	1,115	4,159	0	458	168,110	10.5	14.0
Íslandsbanki	19,840	3,500	9,286	0	869	259,966	12.2	13.4
Landsbanki Íslands	15,183	872	7,254	401	1,496	213,891	10.4	12.1
Icebank	2,141	0	1,041	0	590	22,473	11.5	15.2
Commercial banks total	50,076	5,487	21,740	401	3,413	664,439	11.2	13.2
SPRON	3,192	548	1,225	0	2,477	22,215	11.2	14.7
Hafnarfjördur Savings Bank	2,514	0	751	0	229	25,985	11.7	16.9
Sparisjódur vélstjóra	2,944	0	501	0	880	13,402	19.1	32.2
Keflavík Savings Bank	1,742	243	336	0	728	14,033	11.3	16.7
Kópavogur Savings Bank	672	0	174	0	76	7,721	10.0	14.8
Mýrasýsla Savings Bank	978	0	243	0	395	6,308	13.1	21.1
Six largest savings banks total	12,042	791	3,228	0	4,784	89,663	12.6	18.7
Kaupthing Bank	8,830	0	2,783	0	675	94,840	11.5	17.5
Frjálsi Investment Bank	2,237	0	0	0	0	10,249	21.8	38.6
Investment banks total	11,067	0	2,783	0	675	105,089	12.5	19.6
Total	73,185	6,278	27,751	401	8,873	859,192	11.5	14.6

1. Solvency ratio if the bank should take full advange of its scope to add to its own funds by taking new subordinated loans.
Sources: Financial Supervisory Authority and the banks' annual accounts.

own funds if they are in excess of 15% (i.e. the amount in excess of that limit) of the own funds of the institution in question.

Solvency ratio requirement

Paragraph 1 of Art. 54 of Act no. 113/1996 requires that the own funds of a credit institution shall not at any time be less than 8% of the risk-weighted base. Calculation of the risk-weighted base is specified in Rules no. 693/2001.

Calculation of risk-weighted base

Firstly, the risk-weighted base covers the credit risk of asset items and off-balance sheet items which are not considered part of the trading book. The term trading book refers to securities, other financial documents and commodities that the institution has acquired or retains for resale and/or arbitrage on short-term changes in their market value. In calculating credit risk, individual items are weighted with the appropriate risk weights on the basis of the estimated ability of the debtor to repay them.

Secondly, the risk-weighted base covers currency risk of all asset and liability items and off-balance sheet items denominated in foreign currencies, gold and Icelandic krónur with a currency reference, irrespective of whether they are on or off the trading book. The risk-weighted base for currency risk is the credit institution's net foreign exchange and gold position in excess of 2% of its own funds. In calculating the currency position, the open position in individual currencies is calculated first, then the institution's net currency position.

Thirdly, the risk-weighted base covers position risk connected with debt instruments, equities and commodities on the trading book. Position risk is connected to the position taken by the institution in a given financial document because of conceivable

changes in that document's value.[1]

Fourthly, the risk-weighted base covers counterparty risk, which is connected with trading with securities and commodities on the trading book. Counterparty risk generally involves the failure of a counterparty to a financial agreement to fulfil its terms. Counterparty risk can take the form of delivery risk, settlement risk or credit risk.

Fifthly, the risk-weighted base covers specific risks on large exposures.

Review of rules on solvency ratio

As reported in *Monetary Bulletin* 2001/4, a review of the international capital adequacy requirements of credit institutions is now in progress under the auspices of the Basel Committee and European Commission. At the end of last year the Basel Committee announced that the third edition of new requirements based on submitted comments on earlier drafts could be expected in October 2002. It is aimed for the revised rules to enter into effect in 2005.

Own funds of several financial institutions

Table 1 shows the division of own funds of the commercial banks, six largest savings banks and two investment banks into the three parts specified above (columns 2-5) based on year-end 2001. Column 6 shows the deduction from own funds and column 7 these companies' risk-weighted bases. Column 8 is the mandatory solvency ratio. The end column assesses how high the solvency ratio would be if the companies took full advantage of their scope for taking subordinated loans provided they fulfil the rules applying to them. However, it should be noted that it is assumed here that all such subordinated loans can be taken, which could prove difficult to achieve on acceptable terms.

All the commercial banks except Icebank have taken advantage of authorisation to take subordinated loans which qualify as Tier I (Part A) Capital, Íslandsbanki is approaching the permissible maximum and Búnadarbanki is not far behind. Two savings banks included in this survey have taken subordinated loans classified as Tier I Capital, Keflavík Savings Bank and SPRON, which is close to the maximum.

All the commercial banks have taken subordinated loans which qualify as Tier II (Part B) Capital and most are close to the ceiling. Furthermore, all the savings banks in the survey, apart from Mýrasýsla Savings Bank, have taken such loans, but still have considerable scope for taking more.

Landsbanki is the only financial institution which has taken a loan classified as Tier III (Part C) Capital.

As mentioned above, holdings in other companies in excess of a specified amount are deducted from own funds.[2] SPRON has the largest deduction in nominal terms, where its holding in Kaupthing Bank weighs heaviest. Landsbanki has the next-largest nominal deduction, which includes its holdings in the insurance companies Vátryggingafélag Íslands hf. and Líftryggingafélag Íslands hf. Landsbanki's sale of the leasing company Lýsing hf. lowered this item and served to strengthen the bank's solvency ratio.

Íslandsbanki has proportionally the least scope for adding to its own funds with the issue of new subordinated capital, and will have to rely on higher profits and the issue of new share capital stock to increase its mandatory own funds. Other commercial banks still have some scope left, although proportionally this is starting to diminish at Landsbanki. The six largest savings banks, Kaupthing Bank and Frjálsi Investment Bank still have considerable scope for increasing their subordinated borrowing.

If all these financial institutions were to take advantage of their scope for increased subordinated borrowing, their mandatory solvency ratio could rise from 11.5% to 14.6%.

However, it is undesirable to keep the solvency ratio up with an excessive level of subordinated loans. For example, the Financial Supervisory Authority has emphasised the desirability of a solvency ratio excluding subordinated loans which is not under 8%, while several financial institutions today are close to or below that reference point. In order to equip financial institutions better for withstanding external shocks, it is prudential to strengthen their solvency ratios even further, with profits, new share issues or restraint on the expansion of their balance sheets.

1. Position risk is divided into general risk and specific risk, cf. Rules no. 693/2001.

2. As the Financial Supervisory Authority interprets the rules on own funds, shareholdings in other financial institutions must be deducted from calculations of the solvency ratio, irrespective of whether they are on the trading book or the investment book.

Appendix 2 Responses to the IMF Mission's Financial System Stability Assessment

An IMF mission visited Iceland to meet government officials from March 18-27 for briefings on the Icelandic economy. At its final meeting, the leader of the mission presented an opinion and results of its discussions and studies in Iceland. Two members of the mission were assigned the task of assessing financial stability risk factors. The mission's opinion included remarks on financial stability, which are presented here together with responses to them.

IMF remark	*Item*	*Response*
Inflation remains high, posing risks to macroeconomic stability.	3	Macroeconomic stability is important for financial stability. The Central Bank's target of bringing down inflation must be firmly followed through. Results, in that respect, enhance both macroeconomic and financial stability.
Repos (with the Central Bank) are replacing to a significant extent regular sources of bank financing. Repos are distorting activity in the money markets. Repos may be creating incentives to increase risk and short-term exposures. The authorities [should] consider reforming the repo facility. Indication of an excessively low policy rate.	8	Growth in repo transactions is largely explained by inflows of krónur to the Central Bank due to intervention in the forex market, changes in the treasury position and an increase in the required reserve, partly as a result of the weakening of the króna. Owing to their high dependence on the Central Bank for liquidity, the banks must respond to changes in its policy rate. If price is not fixed, then volume would need to be. That calls for greater quality of liquidity forecasts, otherwise there is a risk that policy rates would be too volatile and the market would miss what the Central Bank was signalling through the interest rate. The advantage of that method is that a correct liquidity forecast would relay signals about the state of the market back to the Central Bank, in the form of interest rates. Liquidity mediation between credit institutions seems to be restricted by tight lending limits, which are presumably based mainly on risk assessment but could also be partly determined by competitive viewpoints. Access to securities that qualify as collateral also appears to hinder such transactions, at least for certain institutions. Part of the repo contracts are now used to finance derivative trading where the risk is very low but the possibility of other types of funding is limited, because of the immaturity of the Icelandic market and its small size. Restrictions on possibilities for repo transactions now would probably lead to a tightening of liquidity in circulation and thereby slow down the recently started reduction in interbank interest rates.
Savings banks reported less favourable results [than commercial banks] as they suffered greater loan losses and were slower in consolidating costs.	10	The crucial point for financial stability is that the systemically most important institutions are secure. Nonetheless, there are grounds for monitoring smaller institutions closely. They need to be encouraged to consolidate costs, incorporate themselves into limited liability companies, boost their own funds where appropriate and be alert to risk management. The Financial Supervisory Authority (FSA) moni-

IMF remark	*Item*	*Response*
		tors each institution closely on an individual basis. The Central Bank keeps a particular watch on their liquidity positions.
Non-performing loans increased substantially in 2001 reflecting the downturn in domestic demand on the consumer, retail and other non-exporting sectors.	10	Defaults by individuals and businesses increased substantially in 2001. The main cause was a downturn in demand, but presumably also excessive credit growth in recent years. There are grounds for analysing defaults and their causes, and classifying them better. Defaults are still much lower than they were in the first half of the last decade.
Banks increased provisions, but provisioning standards remain weak compared to international best practices.	10	FSA Rules no. 692/2001 on the Annual Accounts of Credit Institutions contain prescriptions (in Art. 57 and Appendix I) on provisions for credit losses. These rules grant credit institutions some scope in assessing their need for provisioning. Experience shows a positive correlation between provisions to accounts for loan losses and credit institutions' profits, but provisioning decisions ought to be independent of probable profitability. Requirements concerning assessments of the need for loss provisions could be clarified. Iceland follows similar rules to those applying in the other Nordic countries.
Loan portfolio credit quality is expected to deteriorate again in 2002 reflecting the decline in economic activity.	11	Portfolio quality can generally be expected to show some deterioration this year, with an increase in defaults to some extent. The impact of economic activity on the scope and timing of these factors is uncertain, while settlements of loan losses always appear in the credit institutions' accounts with some lag.
Monitoring of collateral values and associated provisions will be necessary, particularly in view of the ongoing decline in inflation-adjusted real estate prices.	11	Caution needs to be exercised in collateral valuation, especially for business premises.
Securities lending by pension funds may generate unmonitored credit risk exposures. Securities lending to related financial entities increases connectedness and could generate moral hazard conflicts that may hamper proper internal controls.	11	The FSA is examining the scope of these transactions. Insofar as the credit risk is transferred from institutions to pension funds, they improve financial stability, notwithstanding other and perhaps undesirable effects. The second point underlines the priority that must be given to establishing Chinese walls in the activities of finance companies.
The combination of inflation and declining real housing values, if sustained, may pose risks to	12	This remark is self-evident, but in order for problems to arise, a reduction in disposable income must also be assumed.

IMF remark	*Item*	*Response*
the Housing Fund Authority and pension funds in the medium term, as the servicing burden of indexed mortgages and other debt increases.		
Recommends tightening minimum standards for loan classification. Recommends tightening minimum standards for collateral valuation. Recommends more frequent on-site examinations. Recommends careful monitoring of rapidly growing securities lending.	12	These remarks echo the FSSA published in June 2001. FSA Rules no. 693/2000 on the Solvency Ratio of Credit Institutions and Undertakings Engaged in Securities Services stipulate risk categories for lending. These rules are based on EEA rules. Rules on collateral valuation could be clarified. There are grounds for examining rules in force in other countries. FSA is examining the scope of securities lending and the companies involved. This will answer conjectures about links between securities borrowers and lenders, and whether these raise the risk profile. The risk posed to financial stability both by liquidity funding and systemic shocks that could lead to a slump in securities prices needs to be examined.
Recommends careful monitoring of investment banking operations.	12	Investment bank activities are inherently riskier than those of commercial banks or savings banks.
Prompt enactment and implementation of pending financial legislation should be considered a priority, as these laws will allow: • integrated supervision of increasingly linked financial activities. • consolidated supervision of connected groups.	12	The Banking Legislation Committee is engaged in a review of banking legislation.
Prescription of additional capital requirements for banks according to their individual risk profiles.	12	The Banking Legislation Committee and a dedicated task force, addressing areas including capital adequacy, are handling the matter.