Financial stability

The financial system is fairly resilient in the face of macroeconomic imbalances

The macroeconomic environment and operating conditions of financial companies has changed slightly since the last financial stability reoport was published in March, but the overall picture is the same. At that time, macroeconomic conditions were found to be generally speaking favourable, while the main causes for concern were credit expansion, which was largely financed from abroad, and high asset prices. The same concerns are still present. Asset prices (i.e. equities and real estate) have continued to rise since the last analysis, increasing the level of uncertainty although a substantial downturn in prices is unlikely in the near future. Fiercer competition has begun for long-term housing finance with lower interest rates and higher loan-to-value ratios. It was foreseeable that macroeconomic imbalances would increase as a result of the large-scale investments that have been launched for the aluminium industry and will continue for the next couple of years. Consequently, the risk to the financial system has been increasing. On the positive side, the resilience of financial companies and markets has been improved at the same time and they are deemed to be fairly well equipped to meet developments ahead.[1]

Financial stability over the next decade will be largely determined by how successfully the economy can be guided through the pending wave of large-scale investments. It is important to prevent the economy from overheating, with an accompanying upturn in inflation. This would reduce the probability that a very tight monetary stance will be needed, which could weaken the foundations of the financial system. Insofar as the economy is now entering this massive investment phase with rather higher inflation, a wider current account deficit and a more positive output gap than was assumed in the last financial stability report in March, the risks have increased somewhat.

For its part, the Central Bank has responded by raising interest rates to secure price stability. A tighter fiscal stance can substantially reduce the risk of financial instability in the next few years. Imposing an excessive burden on monetary policy to keep demand in check during the investment period will erode the competitive position of the export and traded goods sectors and drive up finance costs. A medium-term fiscal framework, aimed at keeping public sector expenditure in check for the next two years, would strengthen the fundamentals of the financial system and the economy as a whole.

Besides the intensifying investment projects, two factors warrant particular consideration from the perspective of financial stability. One is rapid lending growth and the growing indebtedness of both households and businesses, and the other is high asset prices. International experience shows that, in combination, these two factors can pose risks. Such a situation can prevail for a long time before its negative ramifications emerge, and sometimes the adjustment is so slow that it does not put financial stability under serious strain. Although both house-

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

hold and business balance sheets have become more exposed to volatility in asset prices and exchange rates in recent years, their position seems strong over a horizon of a few years. The planned extension of financing for homebuyers by the public Housing Financing Fund (HFF) could raise household debt, and so could the commercial banks' and savings banks' recent offers of long-term mortgage loans at lower interest rates. Among businesses, debt continues to climb – part of it now driven by leveraged buyouts – but strong EBITDA boosts their resilience. The main concerns involve households' and businesses' ability to withstand major economic shocks, although these are unlikely over the next few years. However, historical experience shows that such conditions must be expected from time to time. From such a long-term viewpoint, macroeconomic conditions for financial stability are deemed to have weakened somewhat since the last report in March.

The position of financial companies was considered fairly solid in March, and that assessment remains unchanged. Profitability of commercial banks and savings banks was very robust in the first six months of this year and their capital ratios were relatively strong. Favourable price developments in domestic securities markets and position-taking are the main drivers of their profitability. Expansion abroad has broadened the banks' revenue base, but the bulk of their profits is still domestic in origin.

Icelandic commercial banks have been determinedly expanding abroad in recent years and their management have stated that they will continue this strategy in the medium term. Against this background it is interesting to ponder the way in which this development calls for a review of the Central Bank's activities. Internationalisation of banking has resulted in a raft of changes in the Central Bank's work and closer cooperation with participants in Iceland and abroad, although much clearly remains to be done in this respect. The Icelandic financial system has expanded its horizons and is becoming increasingly international in character and more dynamic. The Central Bank adapts its activities to these circumstances on the basis of the legislation governing it, as described further in the Appendix.

The banks' large-scale foreign financing has been noted by domestic and international analysts of the Icelandic financial system. International rating agencies have even considered that the high level and short-term character of national debt could constrain the ratings they award to the Republic of Iceland and Icelandic banks. The Central Bank has urged the banks to pay careful attention to their financing and credit ratings, and some positive results have been produced. An important point was reached when the banks began lengthening the maturities of their foreign-denominated funding late last year, and for more than a year now their short-term borrowing has not increased. It is also reassuring to note that the banks' credit ratings have been upgraded over the past two years. In collaboration with the Financial Supervisory Authority (FME), the Central Bank held talks this summer with experts from the largest commercial banks on foreign currency liquidity management. Views were exchanged on sound practices and the usefulness of publicly announcing the banks' risk management standards. An agreement was reached on the principles that contribute to sound practices for foreign currency liquidity management, which are stated in Box 3. The FME has also announced these principles in a discussion paper in preparation for setting guidelines to this effect. It is hoped that the outcome will be to contribute to more prudential foreign currency liquidity management.

In domestic securities markets, a number of changes have been made in trading and settlement implementation, and the efficiency of the markets has been put to the test over the past six months. Clearing and custody of HFF bonds in Euroclear sharpens competition and thereby discipline in the domestic market. Helsinki Stock Exchange has formally joined the Norex alliance, substantially strengthening that partnership. The equity offering by KB banki (Kaupthing Bank) was the largest ever conducted in Iceland, and demonstrated the market's ability to handle a major offering and make large-scale payment transfers flawlessly. On the whole, the HFF bond issue and swaps for older housing bonds went smoothly, but shortcomings were noted, mainly in the short deadline for swaps, limited information and lengthy registration process for the bonds.

Practical experience has now been gained of the rules on activities of payment systems, which the Central Bank set in October 2003. In the Bank's view, these rules have contributed to improved legal security and transparency with respect to system operation. Since mid-2002, the Central Bank has been cooperating closely with credit institutions to ensure that satisfactory collateral is always at hand for their payment system authorisations. Through the reforms of recent years, the Bank considers that significant progress has been made in limiting legal, default, liquidity and settlement risks in the Icelandic payment systems. As far as the next steps are concerned, the Central Bank identifies both the opportunity and the need for careful consideration of operational risk in payment systems.

Financial stability has two aspects. One is the risks that the financial system faces, and the other is its resilience. Risk is always present, although it can be contained to a certain degree. Insofar as risk cannot be avoided, tasks for promoting financial stability must focus on strengthening the resilience of the system, i.e. promoting an efficient and safe financial system, as the Central Bank of Iceland Act says. It was foreseeable that macroeconomic imbalances would increase alongside the large-scale investments for the aluminium industry that have now been launched and will continue over the next few years. The risks posed to the financial system have grown accordingly. It is gratifying to note that the resilience of financial companies and markets has been increased at the same time and can be considered fairly strong.

Macroeconomic indicators and external conditions

Recovery continues among trading partner countries, but at a slower pace

Economic developments among trading partner countries affect financial stability in Iceland in two ways in particular. First, economic conditions in trading partner countries have an impact on Iceland's terms of trade and the profitability of businesses, especially exporters. Second, they affect the rates of interest that financial companies, their customers and other borrowers pay to abroad. International economic developments may also affect the exchange rate of the króna and thereby the finances both of financial institutions and their customers.

Since the Central Bank's last analysis of the macroeconomic conditions for financial stability in March, the global economic recovery has continued in all main market regions. The employment trend in the US from March to May was seen as bolstering the recovery. The optimism that the data aroused was dampened when job creation in June and July took a dive and output growth slowed down in Q2. Nonetheless, the general opinion is that the low will be temporary, and most observers have linked the slowdown in growth with the sharp rises in oil prices in recent months, which seem likely to unwind to some extent in the near term.

Interest rates on an upward path in the US and elsewhere – forex markets subdued

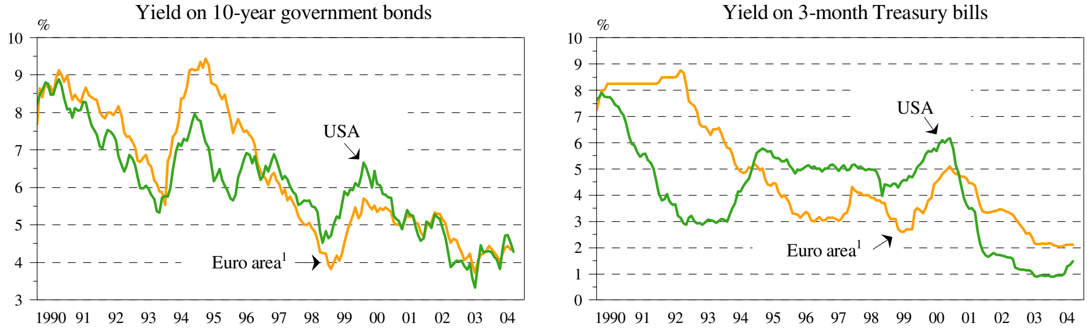
This trend can be seen among other things in the Federal Reserve's decision to raise the US federal funds rate by 0.25 percentage points in August. This was its second interest rate hike this year, on the back of a rise of 0.25 percentage points in June. Nonetheless, the funds rate remains extremely low at only 1.5%. The Bank of England has also raised its interest rates considerably since the last financial stability report in March, by a total of 0.75 percentage points. The Bank of England's repo rate is now 4.75%. It began raising interest rates before most other central banks and since last autumn it has upped the repo rate by 1.25 percentage points in five steps. The European Central Bank is still holding back and has maintained its minimum bid rate at 2%, as recovery in Europe proves sluggish. Interest rate developments in the euro area are most important for financial companies in Iceland, because roughly two-thirds of national debt is denominated in euros.[2]

The Fed's rate rise was not much of a surprise and should not affect the earlier assessment of external conditions for financial stability. US 10-year T-bond rates have inched down recently, after a rise around the middle of the year, and are currently down year-on-year and only marginally higher than in March. The spread between short-term and long-term bonds has shrunk considerably, since the drop in 10-year rates has been accompanied by a rise in shorter-term rates. For example, the spread between 2- and 10-year US T-bond rates was in the range 2.2-2.4 percentage points on average in Q1/2004, but has recently narrowed to less than 1.8 percentage points. Among other things, climbing two-year rates signal

2. See Box 1 in *Monetary Bulletin* 2004/2, pp. 7-8.

Chart 1

Foreign interest rate developments 1990-2004 (monthly averages)



1. Euro area from January 1994 (long-term rates) and November 1997 (short-term rates); Germany before that. *Sources:* EcoWin, Eurostat.

that short-term rates are expected to rise faster over the next two years than was previously thought. In the euro area, long-term rates have recently been at broadly the same level as in the weeks before the last financial stability study in March.

As described in detail in *Monetary Bulletin* 2004/2 (Box 1), Iceland's high proportion of debt carrying variable interest rates or short maturities leaves the economy highly exposed to changes in foreign interest rates, not least businesses and financial institutions. However, maturities have tended to lengthen recently. As stated elsewhere (see the section on financial conditions on pp. 19-22), international financial conditions have not changed much so far. Thus the economy's exposure towards interest rate volatility has not been put to the test yet.

Sharp jump in external debt in the first half of 2004

Overseas expansion by Icelandic companies, in particular in the financial sector, has swollen Iceland's national assets and debts substantially, but its debts by considerably more. The net external position of the economy deteriorated during H1/2004, largely due to increased foreign debt of the banking sector. The net debt position[3] of the economy grew from 100% of GDP at end-2003 to 107% at the end of Q2/2004.[4] Gross external debt[5] was equivalent to 157% of GDP at the end of June, or 1,370 b.kr.[6] Credit rating agencies that award ratings to the Republic of Iceland have all described their concerns about this development for some while, and some have even stated that the main constraint on upgrading Icelandic ratings – or even a potential reason for downgrading them – would be a significant deterioration in the external debt position of the economy.

The external position may be fairly sensitive to exchange rate fluctuations. However, the main world currencies have not been very volatile since March. The euro-US dollar rate has remained well below the high recorded early this year, lying in the range 1.19 to 1.23 for most of the time. At the same time the yen has slipped against the US dollar.

High oil prices have a sizeable impact on various business sectors

Marine product prices have firmed slightly since March, but are still down year-on-year. Aluminium prices have remained quite buoyant, after entering a climb in spring 2003. Changes in export prices have had little effect on assessments of the macroeconomic conditions for financial stability. On the other hand, import prices have soared since the last study in March, especially prices of commodities, oil and petrol. Over Q1/2004 the average global oil price was about 32 US dollars per barrel, while over the past three months it has been around 40 dollars and temporarily passed 44 dollars (see Box 3 in the chapter on Economic and Monetary Developments

3. Net debt (liabilities less assets) excluding equities.
4. Provisional figures.
5. Less equities.
6. Provisional figures.

and Prospects). Higher oil prices can have a sizeable impact on various business sectors, not least fisheries.

Wider-than-expected current account deficit since March exacerbates the risk of instability later on

When the last financial stability report was made in March, no data were available for output growth over the whole of 2003 or for any quarter of the current year. In the event, growth last year turned out higher than expected, at 4.3% instead of 2¾% as forecast in March. First-half figures for growth do not indicate any slowdown so far this year, as discussed in the preceding chapter on Economic and Monetary Developments and Prospects. Gross fixed capital formation has soared, as expected, and private consumption growth in H1/2004 exceeded the forecast in June for the year as a whole.

In pace with buoyant domestic demand, the current account deficit has widened faster than forecast in *Monetary Bulletin* 2003/4 and 2004/1 (December 2003 and March 2004). In June the Bank forecast a current account deficit this year equivalent to 8¾% of GDP, compared with a 7½% deficit in the forecast in March, when the last financial stability report was published.

From the perspective of financial stability, it is no less important that in June the Bank forecast a much wider deficit in 2005 and 2006, when power station and aluminium smelter investment hits a peak. At the same time a lower share of the deficit is expected to be accounted for these investment projects, namely only one-third. Although the deficit is expected to be fairly easy to finance over the next two years, this position raises the risk of difficulties later. It should be pointed out that financial stability analyses need to examine a longer horizon than generally underlies monetary decision-making. Greater external imbalances are therefore unfavourable from a financial stability viewpoint, even though the negative effects are unlikely to be felt in the next few years.

Inflation spike at the beginning of the summer

Monetary Bulletin 2004/1 in March reported low inflation and a favourable outlook for prices, but pointed out that much would depend on exchange rate developments. In May and June there was a spike in inflation, which moved close to the upper tolerance limit of the target in the latter month. According to the Bank's June forecast, this upturn in inflation, which occurred earlier than expected, should reverse in the course of next year. As always, the forecast makes the technical assumption that the exchange rate will remain unchanged and hence strong. Higher oil prices in the world market have contributed to the recent rise in inflation, which may be hoped to unwind within the forecast horizon. In the longer run, housing market developments also have a substantial impact. Now that the large-scale investment projects are getting under way it is important to look further ahead. There is an upside risk of inflation as the investment period progresses, and the Bank's monetary policy must take this into account. Exacerbating the risk is the fact that the economy is now entering this intense investment phase with a tighter output gap and more inflation than had previously been assumed.

As has often been pointed out in previous financial stability reports, an unexpected surge in inflation can have a severe effect on the financial position of households because of the widespread use of price indexation, especially if it coincides with a weakening of the currency and general economic contraction. Successful application of monetary policy to contain inflation while the economy is robust reduces the probability of such a scenario.

Residential housing prices still rising, but growing supply may counteract the rise in the near future

Most if not all financial crises have been preceded by soaring asset prices and lending growth in the countries concerned.[7] Since both these trends have characterised economic developments in Iceland in recent years, there is good reason to monitor asset price developments closely. This applies to real estate prices in particular, but also to equity prices. Both have been rising sharply over the past year. In the last study of the macroeconomic conditions for financial stability in March, the upswing in residential housing prices appeared to have come to a halt, or at least slowed down significantly. Smaller rises in housing prices were seen as a positive factor for financial

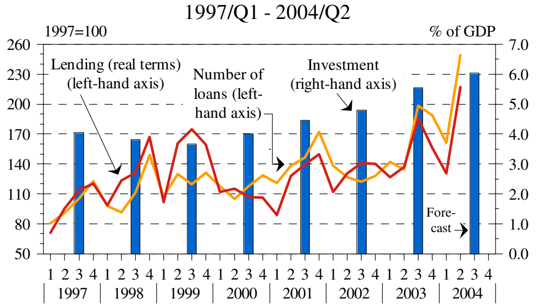
7. See e.g. Borio, Claudio and Philip Lowe, Asset prices, financial and monetary stability: exploring the nexus, BIS Working Papers 114, July 2002.

stability in the long term. However, it was pointed out that uncertainties in the labour market due to wage negotiations and planned changes to housing financing arrangements may have temporarily dampened demand. This inference was probably correct, because around the time that wage settlements were reached, housing prices began to rise faster than for some while before. It cannot be ascertained that growth has slowed down even though the twelve-month rise in housing prices in the Greater Reykjavík Area slowed down slightly this summer. Investment in residential housing soared in 2003 and the outlook is for equally robust growth this year. Some estate agents feel that strong supply of residential housing is beginning to counter price rises in the Greater Reykjavík Area, apart from a few areas close to the city centre.

Chart 2

Residential housing investment and HFF lending[1]

1997/Q1 - 2004/Q2



1. Amount of housing bond loans, deflated by housing prices in the Greater Reykjavík Area. No. of disbursed loans for newbuildings and renovations. Figures for residential housing investment are annual. *Sources:* The Land Registry of Iceland, Statistics Iceland, Housing Financing Fund (HFF) and Central Bank of Iceland.

Lending growth has slowed down, but is still excessive

The surge in lending that has accompanied rising asset prices in recent years – since the two phenomena are closely related – has caused the Central Bank some concern. Data released after the last analysis was published in March indicate even faster lending growth than before, and twelve-month growth in domestic lending by deposit money banks (DMBs) appeared to peak in March and April at around 24%. Despite slowing down slightly, growth is still far beyond a rate that is compatible with monetary or financial stability in the long run. Household and business debt is examined in more detail below.

Equity prices have soared since March

Monetary Bulletin 2004/1 in March reported sharp rises in equity prices over a short period, but also pointed out they were still much lower than over the period 2000-2001, judged on the basis of common measures of share prices such as P/E ratio. These criteria, however, suggested that the price of shares in specific companies was extremely high. A sign of weakness was identified in the way that the buoyant demand seemed to be sustained by relatively few investors, while institutional investors were holding back. Leveraged buyouts had also driven up certain companies' share prices. This was seen as increasing the risk of a chain reaction of falling equity prices later, if any buyers involved in a leveraged buyout encountered problems in honouring their obligations. More cautious equity trading was therefore called for. Since then, prices of equities listed on Iceland Stock Exchange (ICEX) have risen further, by more than 40% from mid-March to mid-September. Accordingly, there is reason to take an even more critical view of equity prices than before.

Interest rates on an upward path

Since the last financial stability report in March, the Central Bank has raised its policy interest rate three times, by a total of 0.95 percentage points to 6.25%. As pointed out above, these hikes have probably squeezed the financial conditions of businesses, but the reduction in mortgage interest rates under the new housing loan system will probably outweigh this for households. Housing bond yields have in fact inched upwards after the last policy rate hike, but trading in these instruments has almost dried up following the loan system changes. Developments in the secondary market for housing bonds should not affect household finances except through their bond holdings. Although financial conditions of businesses have tightened slightly with higher interest rates in Iceland and abroad and the strengthening of the króna, overall financial conditions have shown little change thus far.

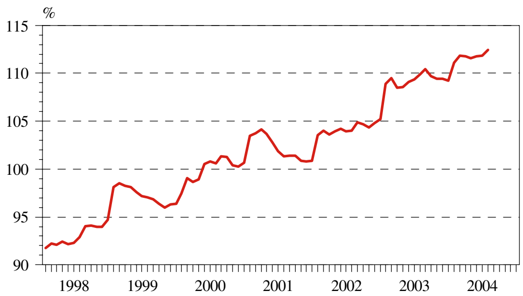
Households

The last two financial stability reports, in March 2004 and November 2003, have found the position of households fairly solid in the short run, but pointed out large and growing debt coinciding with a historical high in housing prices as a long-term risk factor. The reason for considering the households' short-term position fairly solid is the apparently low risk of income-side shocks during the heavy investment period over the next three years. However, there could be an upside risk of a reversal when the investment episode peters out. There have been no indications of substantial household arrears in the banking system that might signal difficulties, although the number of unsuccessful distraint actions could indicate the opposite, as discussed in more detail below.

Chart 3

Real wages January 1998 - July 2004

Based on the wage index and the CPI less housing cost



Sources: Statistics Iceland and Central Bank of Iceland.

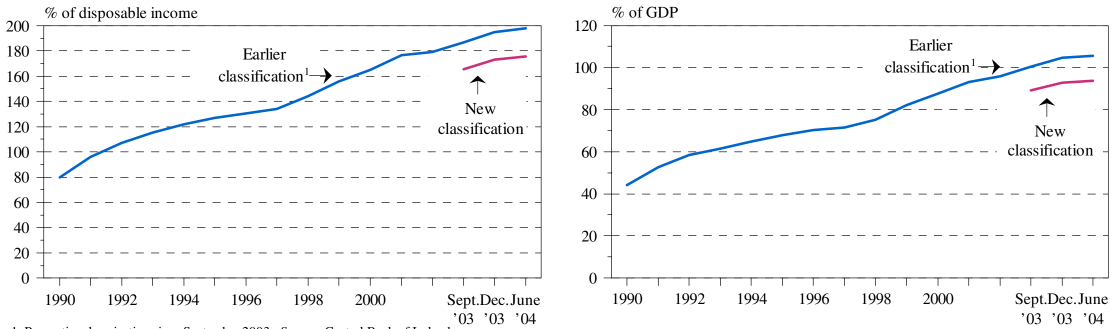
part of these gains. Employment prospects are generally good, even though seasonally adjusted unemployment has edged upwards. Short-term interest rates have risen somewhat in pace with the Central Bank's policy rate, but have been offset by cheaper housing loans. Thus the short-term position looks fairly solid. As before, the main cause for concern is the interaction of rising debt, to which no end appears in sight, with high residential housing prices.

Household debt rose sharply in 2004 but growth has slowed down this year

After continuous increases for almost twenty-five years, Icelandic household debt rose exceptionally fast in 2003, by more than 15%. Household debt at end-2003 is estimated at roughly 180% of disposable income and 96% of GDP. These ratios are calculated on the basis of the reclassification of debt in September 2003 which caused some reduction from previous estimates – year-on-year figures have been adjusted to eliminate the estimated impact of the reclassification.[8] Debt accumulation has continued so far this year, but rather more slowly than last year. From the beginning of the year to the end of June, household debt grew by 5%. In recent months the increase in debt appears to be mostly confined to housing loans, which carry relatively low interest

Chart 4

Household debt as ratio of disposable income or gross domestic product 1990-2004



1. Proportional projection since September 2003. *Source:* Central Bank of Iceland.

All the signs are that the earlier analysis of the position of households still broadly holds. Real wages are continuing to rise year-on-year although the upturn in inflation in recent months has eroded

8. Under the new methodology, 93 b.kr. of household debt was reclassified to businesses and the public sector.

compared with other credit forms and is repaid over a long period.

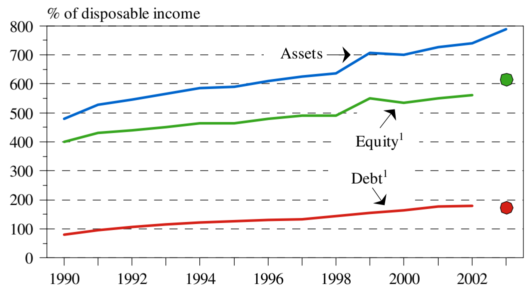
DMBs and some pension funds recently began offering housing loans at comparable terms to the HFF. Unlike the HFF loans, a housing purchase is not set as a condition for these loans. This new competition is likely to speed up prepayment of older housing loans carrying higher rates of interest, e.g. housing bond loans and pension fund loans.[9] It will also facilitate households in financing consumption by mortgage equity withdrawal. There is nothing to prevent borrowers from taking higher loans than those being prepaid if the property is sufficiently mortgageable, and by extending the maturity at a lower interest rate, households can conceivably fund their private consumption without needing to increase their short-term repayment burden. However, in many cases a considerable interest rate differential would be required before the saving outweighs the borrowing cost. This innovation seems likely to stimulate even further household debt accumulation. In the long run, lower interest rates can also be expected to trim asset formation of pension funds.

Is heavy household debt a danger sign?

Yet another historical record for household debt warrants a re-examination of the methodologies and data used for household debt and assets in evaluations of the macroeconomic conditions for financial stability. As a rule, analysing the macroeconomic conditions for financial stability does not involve forecasting problems or crises in the near future, but rather identifying scenarios which under specific conditions could harm the financial system. One of the main problems with such an analysis is that imbalances can build up over a long period and leave the financial system more exposed, without any serious aftermath emerging until a shock strikes much later. Such a slow buildup can go on for years or even decades, sometimes as part of a global process, before the repercussions are felt in the form of financial stability. The challenge faced by institutions that monitor financial stability is that it is difficult to assess when the exposure of specific sectors, the financial system or the economy as a whole becomes a real problem, not just a conceivable one. If regular warnings are issued for years without anything of note happening, they may lose their credibility. However, this is not to say that they were wrong. They may even play some part in keeping problems at bay. This is worth bearing in mind in discussions of Iceland's growing household debt and evaluations of its conceivable consequences for the longer-term soundness of the financial system.

Chart 5

Households' assets, debt and equity 1990-2003



1. A new classification of lending in 2003 led to a reduction in debt and a 22% increase in the ratio of equity to disposable income. *Source:* Central Bank of Iceland.

Household debt as a percentage of disposable income is used as a measure of the sensitivity of households' finances to shocks, by giving an indication of how large a share of their disposable income at any time needs to be allocated to paying interest and instalments later. The greater the ratio of unavoidable – in the short term – liabilities to income, the greater the probability that households could encounter difficulties in meeting them, e.g. when income contracts. Households' relative repayment burdens are determined not only by the debt stock, but also by interest rates, indexation, lifetime of loans and other commitments that cannot be easily avoided. In Iceland, however, the bulk of households' financial liabilities are in connection with owner-occupied housing. In estimating the long-term repayment burden, the soundness or volatility of household income also needs to be examined. One factor to consider is how easily households can alter the terms of their liabilities at any time, e.g. by extending the repayment period or rolling over short-term debt.

Instead of considering the ratio of debt stock to income, data on the repayment burden can of course

9. Interest rates on certain classes of older housing loans have also been lowered.

be collected directly. However, since such data are only partial, rough estimates will need to be made anyway based on the size and composition of the debt stock. These estimations are discussed in more detail below, after a closer look at debt ratios. It should also be remembered that the distribution of debt is no less important than the total debt burden. The same debt burden amount can thus carry different risks, depending upon how many people need to shoulder it.

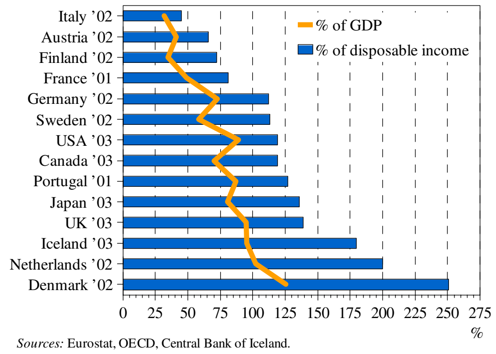
Box 1 An international comparison of household debt

Iceland has a high level of household debt, but not the highest internationally

As discussed elsewhere, debt stock is an imperfect measure of the burden that it places, or will conceivably place, on future household income. However, a ratio which is high in a historical or international context could indicate risk. In the following, a quarter of a century of debt accumulation by Icelandic households will not be discussed further. Instead the focus is on their position compared with other countries. Such a comparison is no less problematic. Iceland's position in the community of nations does not ultimately answer the question whether its high household debt poses a risk. Other nations have also been through phases of debt accumulation in recent years. Thus their economies may have also become more exposed than before.

Chart 1

Household debt in selected countries



Sources: Eurostat, OECD, Central Bank of Iceland.

Size of the public sector, housing ownership, pension funds and age of population explain the debt ratio to some extent

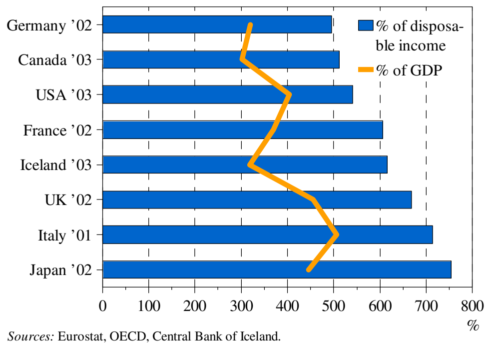
By international comparison, Iceland has one of the highest ratios of household debt whether in terms of disposable income or GDP. Chart 1 shows the ratio of household debt in selected countries. Iceland is rated third in this group on both counts, but the lower-ranking countries follow closer behind it in terms of GDP. A number of possible explanations can be given for Iceland's high ratio of household debt to disposable income. In countries with a large public sector, disposable income is lower by the equivalent of its higher direct taxes. It is normal for Iceland to have a higher ratio of household debt to disposable income than, for example, Japan or the US. The ratio of household debt to GDP, on the other hand, is unaffected by the tax level.

Another explanation for Iceland's high household debt is the large proportion of private housing. More than 80% of housing is owner-occupied in Iceland, compared with just under 70% in the UK, 55% in France and a little more than 40% in Germany, which has the lowest level among Western countries. Families in rented accommodation pay rent instead of interest and instalments on mortgages. Their financial obligations are not necessarily less and may not be much easier to divest, e.g. by moving to a smaller property, than those of owner-occupants.

If a high level of owner-occupancy does to some extent explain the high debt ratio, this implies that households probably own considerable assets to offset their debts. If these assets are liquid and have a higher value than their debts, temporary financial distress on the part of borrowers will be less likely to cause setbacks in the financial system. A rough estimate of household equity as a ratio of disposable income and GDP in selected countries is shown in Chart 2, and the asset-debt ratio in Chart 3. By these criteria Iceland ranks lower than various large nations where data are readily available, although not so very far behind some of them.

Chart 2

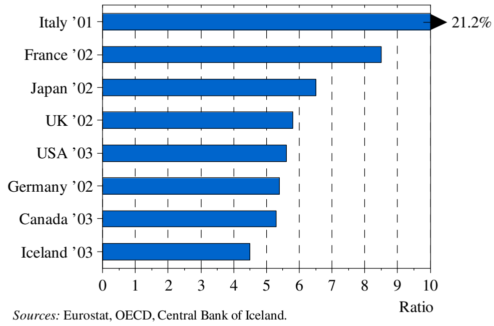
Household equity in selected countries



Sources: Eurostat, OECD, Central Bank of Iceland.

Chart 3

Household debt-to-asset ratio in selected countries



Sources: Eurostat, OECD, Central Bank of Iceland.

Certain items behind the statistics for Iceland's household debt, and in particular for assets, are only rough estimates. Bearing this qualification in mind, the ratio of household equity to GDP is not out of line with that of the G-7 economies. Iceland's pension funds make a substantial difference, since assets held with them and with insurance companies are included with household equity in these statistics. It should be kept in mind that assets held in a pension fund normally cannot be used to pay off household arrears. However, they are a guarantee for future income flow and reduce the need for equity in the form of low-mortgage housing on retirement. Individuals with good pension rights can therefore allow themselves a higher level of indebtedness as they approach retirement age than would otherwise be the case. This may explain why Dutch, Danish and Icelandic households rank with the most heavily indebted – all these countries have strong pension fund systems.

The third explanation for Iceland's household debt figures is its younger average age of population than the other countries in the comparison. This almost certainly brings down the ratio of equity to GDP and raises the debt level.

Finally, under the definition of disposable income used in Iceland in recent years, capital earnings are included, while interest expenses are deducted. Thus higher household debt drives up the ratio with double effect, because the numerator increases at the same time as the denominator decreases.[1]

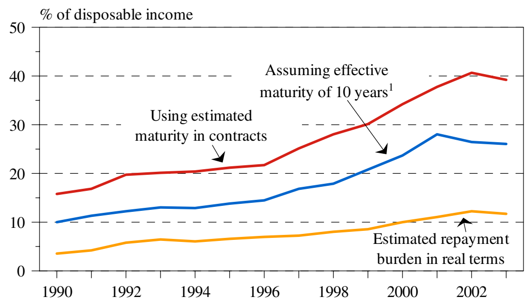
1. It would seem to be more logical to use the income that households have at their disposal for meeting debt service, as the denominator.

Data on the repayment burden are fragmentary, but it appears to be very high

As mentioned above, household debt risk can also be evaluated from directly acquired data on the repayment burden. Such data are sporadic in Iceland and quite difficult to interpret, not least because of uncertainty about real short-term debt service. The clearest example is probably overdrafts, which often do not formally specify a repayment date and under normal conditions offer an extremely flexible rate of repayment, but may be revocable. Although the rate of repayment can be considered from various perspectives, it is obvious that household debt service has grown in pace with increased indebtedness. A

Chart 6

Households' repayment burden 1990-2003



1. Lending by DMBs, insurance companies and leasing companies are calculated at nominal interest rates and a 10-year lifetime. *Source:* Central Bank of Iceland.

lengthening of the formal time to maturity on loans other than housing and pension fund loans, from just over two years in 1990 to almost three years, has offset this to some extent. Based on formal time to maturity, total household debt service has nonetheless grown from 15% of disposable income in 1990 to almost 40% in the past few years.

In general, however, households roll over a considerable amount of their short-term debt each year. To illustrate the sensitivity of the estimated repayment burden to changes in real repayment time, the repayment burden on medium-term debt with an active maturity of 10 years on average over the entire period can be estimated to have increased from 10% of disposable income in 1990 to almost one-quarter.[10] These appear to be more credible figures than the former ones, but are still extremely high considering that, for example, US household debt service was estimated at 13% of disposable income last year. Nonetheless it must be borne in mind that public sector income amounts to 31% of GDP compared with 46½% in Iceland in 2003; that more than 80% of housing is owner-occupied in Iceland as against 70% in the US, and that all kinds of leasing arrangements for cars and boats are more common there. In fact, leasing of this type is so common in the US that the Federal Reserve has extended its concept of debt service and now also collects data on leasing payments for cars, home and household insurance, real estate taxes and many kinds of contractual and fixed household payments, irrespective of whether they are connected with repayments and interest on loans or some kind of leasing payments. Including loan repayments, the total share of these fixed payments amounts to more than 18% for households as a whole and 31% for those living in rented accommodation, but only 15.7% for owner-occupants.

Although the real repayment period is longer than the formal one, and the repayment burden is correspondingly lighter, the formal period may be important in certain circumstances. When household finances come under severe pressure, the formal loan period may suddenly be made binding if credit institutions try to safeguard their interests by refusing to roll over short-term debt, revoking overdraft authorisations, etc. However, the bulk of household debt is long-term and held by patient creditors, who by and large have collateral for their claims.

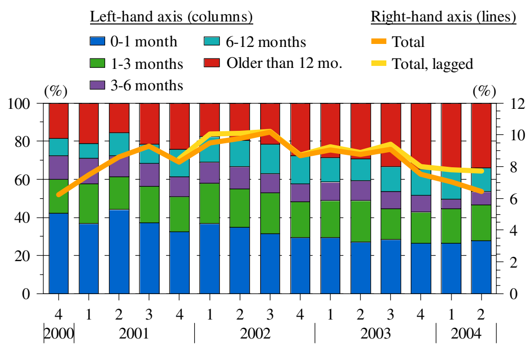
Perhaps the main risk entailed by debt accumulation is not large-scale household arrears which could end up as loan losses in the financial system. Heavy losses are more commonly caused by lending to businesses and commercial premises. A large part of household debt has a very long maturity and is mostly secured with good collateral. However, if the income of a large proportion of households drops, e.g. because of unemployment, or if real disposable income is eroded by inflation, high debt levels can amplify the resulting contraction in demand, with a knock-on effect in other sectors, such as commerce and services, construction or domestic industrial manufacturing. As far as the Icelandic economy is concerned, it is an advantage that a fairly large share of this derivative impact would be felt abroad and cause correspondingly less upheaval in the domestic labour market.

The debt position of households affects the functioning of automatic stabilisers in the economy. Households with ample financial positions are presumably more likely to meet a temporary downturn by borrowing, or saving more slowly, than those which have heavy debts or have otherwise allocated a large proportion of their income towards

Chart 7

Arrears of households 2000-2004

Columns: Arrears as ratio of total arrears in period (left-hand axis).
Lines: Arrears as ratio of total outstanding lending at period-end and lagged for one year (right-hand axis).



Source: Financial Supervisory Authority (FME).

10. The repayment period for HFF loans has also been lengthening in recent years. Since data on repayments of HFF loans are acquired directly from the Fund, this development should be reflected in these figures.

Box 2 Household debt and the planned extension of public housing finance

The Government of Iceland's policy statement from May 2003 contains the following policy point on housing: "...reorganisation of the housing market will continue, in accordance with the objectives for the Housing Financing Fund. The mortgage ceiling for ordinary housing loans will be raised in stages during the Government's term of office to as much as 90% of the value of the property, to a certain limit. The market for rental housing will be strengthened."

Details of extending mortgage entitlements have not been announced, but some developments are likely after the EFTA Surveillance Authority ruled in August that the activities of the Housing Financing Fund (HFF) and ideas for changing them were consistent with European Economic Area rules.

Ideas have been examined for raising the loan-to-value ratio for HFF loans from 65%-70% to 90% and increasing the maximum loan amount by up to half. This would be balanced by shortening the maximum loan term from 40 years to 30 years and tightening requirements for collateral. The loan-to-value ratio has already been raised to 90% in connection with secondary mortgages for lower-income borrowers. In 2003, almost one out of every three borrowers apparently borrowed at least some amount on a second mortgage. The recent reduction in interest rates on second mortgages will spur demand for them.

The effect of these changes will compound the rise in household debt that has already taken place under the existing rules. As a rough estimate, the new financing arrangements will lead to a relatively modest increase in debt, in the range 2%-5%. This will peak after a few years, then the impact will begin to wane as the effect of shorter mortgage maturities gradually filters through. Furthermore, average interest rates on new household borrowing are estimated to drop temporarily by roughly ¼ of a percentage point due to changes in loan composition.

Studies of the relationship of consumption, housing prices and residential housing with income, interest rates and debt suggest that lower interest rates and easier access to borrowed funds increase consumption and housing prices in the short term, while greater indebtedness subdues consumption in general and may have a downward impact on housing prices in the longer run. Higher housing prices encourage construction. The planned changes in housing financing arrangements will probably have an expansionary effect on the economy when they go into effect. Output growth is estimated at ¼ of a percentage point higher during the first year, after which the impact will soon abate. The new arrangements can be expected to give households more scope for mortgage equity withdrawal in order to finance their consumption, as there is some evidence of in Iceland and other countries recently. In the long run, however, private consumption would end up half a percentage point less than if the system had not been changed, due to the impact of higher debt. The inflationary impulse is estimated at ¼ of a percentage point during the first year and will outlast the impact on output growth.

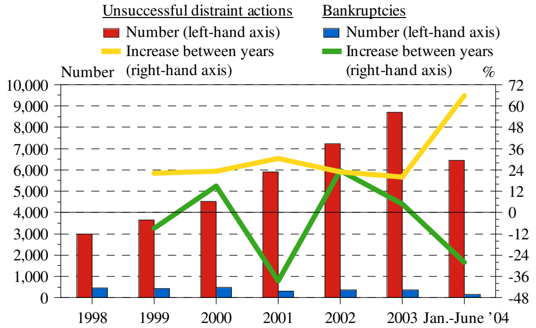
Although they are not expected to mark a turning point, the proposed changes will increase the already high level of household debt. A growing share of this debt is in the form of price-indexed annuity loans, which create a highly back-loaded payment burden. Since housing prices are volatile, a problem could arise if the value of the property drops and thereby brings down the loan-to-value ratio to below the ceiling specified in the loan agreement. Studies suggest that if the initial debt is high, this risk may be significant: namely that the value of the property could drop below the claims secured against it. This probability is very sensitive to changes in loan-to-value ratio when the ratio is high, and increases significantly if the property is purchased while prices are buoyant. Calculations show that if housing is purchased with an annuity loan equivalent to 80% of its value, the probability of its price falling below the value of loans secured against it can increase from virtually nil if it is bought at a price 0-10% below the long-term average, to 20-65% if it is bought at a price 10-20% above the long-term average. Raising the loan-to-value ratio to 90% increases the probability of negative net housing equity to 10-35% for housing purchased at 0-10% below the average price and up to 80-90% for housing purchased at 10-20% above average price. This risk is caused by both the back-loaded nature of annuity loan repayments and the inherent volatility of housing prices. There is a strong correlation between changes in real wages and real estate prices. Household real incomes fluctuate by less than real estate prices, however, and homebuyers are in general relatively young and moving up the pay ladder. Households also have considerable scope for cutting back their consumption when squeezed. These three factors mean that the probability of homebuyers not being able to meet their payment obligations is likely to be lower than that of the value of the housing dropping below its mortgageability. The probability of such a squeeze on a collateral, and its sensitivity to the loan-to-value ratio, is nonetheless worth pondering when it is planned to usher in a 90% general loan-to-value ratio at the same time as housing prices in the Greater Reykjavík Area are more than 20% above the 10-year average in real terms.

If the proposed changes to housing financing arrangements are put into practice in part or in full, the main restriction on homebuying will probably be estimates of the borrowers' ability to service their debt. In such circumstances it is crucial for lenders to strengthen substantially their vetting of borrowers' ability to pay because, obviously, more opportunities for borrowing also mean more opportunities for overreaching oneself.

contractual payments. Sound households therefore act like model treasuries, generating a surplus during booms but allowing themselves a deficit during contractions.[11]

Chart 8

Unsuccessful distraint actions and bankruptcies – households 1998-2004



Source: Lánstraust credit rating agency.

Unsuccessful distraint actions still increasing

In recent times the number of unsuccessful distraint actions against households has risen significantly. Totalling 8,688 in 2003, their number had almost tripled over a five-year period. This trend seems by no means over, with 6,441 in the first half of this year.

The number of unsuccessful distraint actions is only one side of the coin. Lack of data about the amounts underlying distraint orders prevents generalisations about the scope of the problem. There has not been a comparable increase in bankruptcy rulings, which numbered 386 in 2003 and 173 in the first six months of this year. This suggests that although unsuccessful distraint actions are on the increase, the amounts involved are too small to make it worthwhile to take the next step against the debtor, namely bankruptcy proceedings, unless it is certain that the claims can be recouped. It should be pointed out that the cost of filing bankruptcy proceedings can amount to almost 300 thousand kr.

Part of the explanation for the surge in unsuccessful distraint actions against households is probably as follows: Handling of these cases is more effective than before. Large, specialised companies now handle collection services for businesses, shortening the process from arrears to distraint action. Businesses are less tolerant of arrears and take action earlier in order to be able to write off lost claims. Legal processing by some district commissioners has also become more efficient.

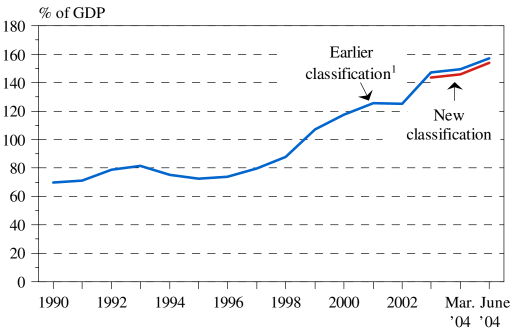
In addition, the age composition of many companies' customer groups has changed. The share of the youngest age group has been steadily increasing. The number of account holders who have little in the way of assets and owe small amounts has increased, which could explain the increase in unsuccessful distraint actions.

Although these explanations indicate less risk to household finances – and thereby to financial

11. It is not uncommon for the public sector to encounter a similar situation to households with large contractual payments, when outlays are mandatory by law or under long-term agreements, e.g. for the health service, national insurance and schooling. However, the public sector has one trump that households do not: the power to levy taxes in the future.

Chart 9

Corporate debt 1990-2004



1. Proportional projection since September 2003. *Source:* Central Bank of Iceland.

stability – than would appear at first sight, the increase in unsuccessful distraint actions is a negative development, especially since it has taken place despite an economic upswing.

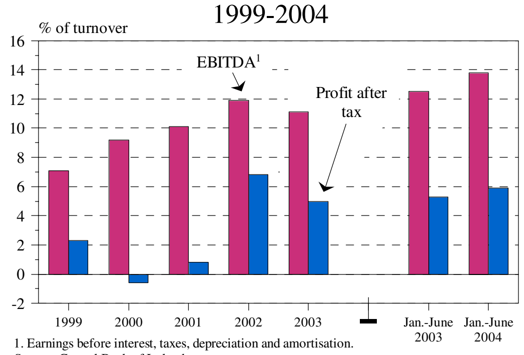
Businesses

Corporate debt continues to increase

Reports on financial stability in recent years have focused just as much on the persistent growth in corporate debt as in household debt. At the end of 2003, debts of businesses were equivalent to 144% of GDP, based on the new loan classification which results in a slightly lower ratio than under the earlier system.[12] Their debt has continued to increase so far this year and a rough estimate in mid-year could be around 154% of GDP for 2004, using GDP figures from the Central Bank's forecast in June. Leveraged buyouts are likely to account for a sizeable part of this increase. However, business investment in 2003 has been revised upwards considerably since the last financial stability report in March, which may explain part of the increase in corporate borrowing. Exchange rate-linked corporate debt has grown particularly rapidly, by roughly one-third in 2003. Since the beginning of this year, exchange rate-linked debt with banks, savings banks and investment credit funds has increased by roughly 15%, i.e. the annual growth rate has been broadly the same as last year.

Chart 10

Businesses' EBITDA and profit after tax 1999-2004



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

Businesses have become more exposed to exchange rate and interest rate changes, but strong EBITDA boosts their resilience

For businesses as a whole, their sensitivity to shocks, not least from the exchange rate and interest rates, is clearly increasing. However, judging from available profitability data for this year, most of them have at present considerable scope for servicing these debts. EBITDA of companies listed on ICEX was strong during H1/2004, averaging 14%. In the fisheries sector, which generally records a better performance in the first half, EBITDA was 23%.

Despite their strong profitability, there are two reason for focusing on fisheries companies in particular. First, their profit after tax has dropped considerably, despite higher EBITDA, partly due to their high proportion of euro-denominated debt. Second, it is noteworthy that their debt-to-equity ratio has risen sharply since the end of 2003. Debt was equivalent to twice their equity at end-2003 but two and a half times in the middle of the current year. There are instances of leveraged buyouts under which the sellers are paid for their shares with funds raised by mortgaging the company that is taken over, thereby lowering its equity. Such buyouts, if they are widespread, can heighten the sector's sensitivity to external shocks.

Fisheries companies have in recent months suffered setbacks from rising oil prices, which are not fully reflected in their first-half statements. Fuel is a sizeable component of fisheries costs. If high oil prices are sustained, profitability could take a dive in the second half of this year. Specific segments of

12. The reclassification of loan categories was described in *Monetary Bulletin* 2004/1.

Table 1 Debt ratios of listed companies, by sector[1]

At end of period	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*June 2004*
All sectors	1.9	1.9	2.1	2.3	2.3	1.7	1.8	3.0
Fisheries	1.8	1.8	1.9	2.6	2.6	2.0	2.0	2.5
Manufacturing	1.5	1.7	1.8	1.5	1.4	1.4	1.6	1.8
Oil distribution	1.4	1.2	1.1	1.7	1.7	1.3	.	.
Marine exports	5.0	4.9	4.4	5.3	5.0	5.0	5.7	6.3
Transport	1.9	1.8	1.8	2.3	1.4	1.3	1.7	2.3
IT	2.8	2.9	2.3	1.8	1.4	1.1	1.0	1.0
Miscellaneous	1.6	2.3	2.8	1.9	2.0	1.5	1.4	1.8

1. Total debt as a percentage of equity. *Source:* Central Bank of Iceland.

fisheries are also experiencing considerable difficulties, e.g. shrimping, and the real exchange rate is on the high side.[13]

Significant increase in unsuccessful distraint actions against businesses

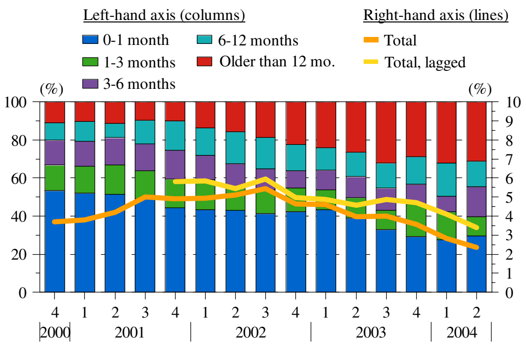
Unsuccessful distraint actions against businesses increased significantly year-on-year during H1/2004, by 64%. The increase was particularly marked in Q1, but slowed down somewhat in Q2. Part of the increase in unsuccessful distraint actions in the recent term can be attributed to growing numbers of limited liability companies, while the explanation for the increase among households also applies to some extent.

Given the increase in unsuccessful distraint actions in 2003 and preceding years, bankruptcies could have been expected to increase this year. This has not turned out to be the case. Bankruptcies over H1/2004 numbered roughly the same as over the corresponding period in 2003, or just over half of last year's total. There are grounds for keeping a close watch on the trend over the next few months, when it should emerge whether the increase in unsuccessful distraint actions reflects mounting operating difficulties among smaller businesses in general, or rather a change in practices and data collection.

Chart 11

Arrears of businesses 2000-2004

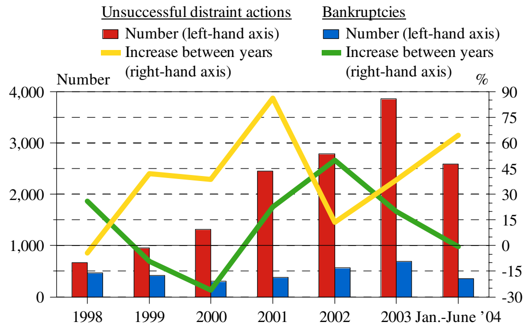
Columns: Arrears as ratio of total arrears in period (left-hand axis).
Lines: Arrears as ratio of total outstanding lending at period-end and lagged for one year (right-hand axis).



Source: Financial Supervisory Authority (FME).

Chart 12

Unsuccessful distraint actions and bankruptcies – businesses 1998-2004



Source: Lánstraust credit rating agency.

13. Notwithstanding leveraged buyouts, recent fisheries profitability ought to shelter the sector against shocks in the immediate future. However, profitability could easily change if shocks coincide. A 10% drop in product prices would, at a rough estimate, cut EBITDA by 6% of revenues, and if oil prices hit 50 US dollars a barrel and remain there, it would fall by a further 3%.

Financial companies

Profitability of financial companies at its peak?

The profitability[14] of the commercial banks during the first half of this year has seldom if ever been greater. In general, the profitability of the six largest savings banks over the first six months of this year was also very strong. Soaring commercial bank profitability in H1/2004 can be attributed for the most part to trading gains on securities portfolios, especially on equities.[15] The ICEX-15 Index, for example, rose by 40% over the first six months of this year and from end-June to September 10 by just over 19%.

The four commercial banks' annualised pre-tax return on equity in H1/2004 averaged just over 55%. If gains on the banks' trading books are excluded, this figure would have been 26.5%, other things being equal.[16] Taking this one step farther and excluding income from equities and other holdings and sundry income from the banks' profit before tax would leave an average return on equity of just over 11%, other things remaining equal. For the six largest savings banks, profit before tax for the first half was just over 40%, but drops to 3.7% if trading book gains are excluded and other factors unchanged. In view of this, it can be concluded that both commercial banks' and savings banks' profitability would have been considerably lower if securities market developments had not been so favourable.[17] This should be food for thought for the management and shareholders of these companies.

As discussed in the assessment of financial stability in March of this year, a growing portion of the commercial banks' income originates abroad. If recent trends continue, this share can be expected to

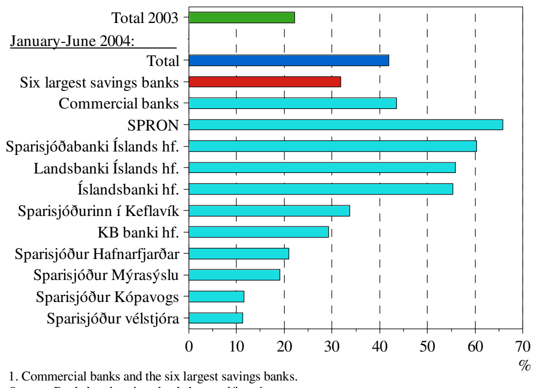
Definitions

Commercial banks:
Íslandsbanki hf., KB banki hf., Landsbanki Íslands hf. and Sparisjóðabanki Íslands hf. (Icebank)

Six largest savings banks:
Sparisjóður Reykjavíkur og nágrennis (SPRON), Sparisjóður Hafnarfjarðar, Sparisjóður vélstjóra, Sparisjóðurinn í Keflavík, Sparisjóður Kópavogs and Sparisjóður Mýrasýslu.

Chart 13

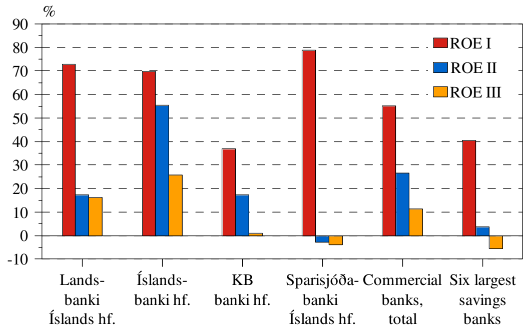
Return on equity (after tax) in the first half of 2004[1]



1. Commercial banks and the six largest savings banks.
Source: Banks' and savings banks' annual/interim reports.

Chart 14

Return on equity (before tax) in the first half of 2004



ROE I: Profit before tax as a ratio of average capital position over the period. Annualised.
ROE II: ROE I less trading book gains.
ROE III: ROE II less income from equities and other holdings and sundry income.
Source: Banks' and savings banks' annual/interim reports.

14. The ratio of net profit to the average between equity at the start and end of the period, less profit for the period (annualised).
15. KB banki's greatest gains came from its bond positions. To a considerable extent, however, these are based on the market value of a convertible bond of Bakkavör Group hf. which currently reflects Bakkavör Group's share price.
16. It should be pointed out that, generally, trading gains are to a considerable extent unrealised.
17. The situation is admittedly not quite so simple, since expenses are to some extent linked to performance, e.g. performance-linked salaries and employee stock options. Securities holdings also incur considerable financing cost.

increase still further.[18] Expansion abroad should broaden the banks' operating bases, facilitate them in providing services to customers who are themselves expanding into foreign markets and increase interest and awareness among foreign investors towards the Icelandic financial market and its products. As has been previously pointed out, however, such investments must be guided by the profit motive and not be expansion abroad merely for its own sake. The Appendix examines some of the implications of the Icelandic banks' expansion abroad for the Central Bank's tasks.

Unless an unexpected downturn occurs on the securities market, it is clear that profits of the commercial banks and six largest savings banks this year will outstrip their 2003 results. Since profitability on such a scale will be difficult to achieve in the coming years, however, it is crucial for them to produce results from their expansion abroad and avoid unexpected setbacks in domestic operations, in order to deliver satisfactory performance in the next few years. It is also worth remembering that the introduction of mortgage loans from commercial banks and savings banks, at similar terms[19] to the HFF, could tighten credit institutions' spreads, by creating opportunities for households to refinance old, less favourably termed bank loans.

Expenses generally have increased ...

All the commercial banks and most of the six largest savings banks reported a lower cost-income ratio, i.e. operating expenses as a proportion of net operating revenue, for the first six months of 2004, despite generally higher expenses year-on-year.[20] Increased expenses can be partly attributed to performance-linked salaries.

... and reviews of loan portfolios are concluding

The commercial banks' specific loan-loss provisions amounted to just over 5 b.kr. during the first six months of this year,[21] as compared to just over 10.1 b.kr. for all of 2003. At Landsbanki and Íslandsbanki, provisions for loan losses as a percentage of total outstanding loans dropped over the first half of this year,[22] comparing the end-June and end-2003 figures. On the other hand, KB banki's provisions rose as a percentage of total loans outstanding at the end of June – one explanation being that KB banki says it is concluding a review of its loan portfolio following last year's merger. This ratio can therefore be expected to shrink somewhat during the second half of the year. Combined specific and general provision accounts for bad loans, as a percentage of total loans outstanding at end-June, decreased for commercial banks after having remained practically unchanged between 2002 and 2003.[23] Recent lending growth is the chief explanation for this lower percentage, since provisions are unlikely to be needed immediately for new loans.[24] The provision account balance for bad loans of the six largest savings banks dropped slightly during H1/2004, i.e. provisions for loan losses were lower than final loan write-offs. This would indicate that the commercial banks and six largest savings banks do not expect further loan losses on the recent scale – but the above qualification concerning new loans should be borne in mind as well.

The commercial banks' final write-offs amounted to 4.5 b.kr. at the end of June, as compared with over 6.5 b.kr. for 2003 as a whole. Since loan-loss provisions by the commercial banks are on the decrease, and their loans in arrears of 30 days or more decreased again in Q2 according to information from the FME, their loan losses can be expected to slow down and, other things being equal, to drop in the coming year. Lending growth last year and so far in 2004 has surged, however, as discussed in subsequent sections. In such a climate there is a risk that some

18. KB banki's acquisition of the Danish bank FIH will more than double its balance sheet, with three-quarters of its income originating abroad. Íslandsbanki has made a takeover bid for the Norwegian bank Kredittbanken, which had assets of over 37 b.kr. at the end of last June. When Landsbanki presented its six-month results in July, its CEO Sigurjón Þ. Árnason stated that it had sufficient financial resources to invest over one billion euros (90 b.kr.), much of which could be expected to be deployed abroad.

19. Subject to certain conditions.

20. The cost-income criterion has its drawbacks, as previous analyses of financial stability have pointed out.

21. Provisions for general loan losses during the same period were 930 m.kr.

22. Annualised.

23. Provisions reached a low of 2.1% in 2000, while at the end of June this year they were 2.2%.

24. Except for general loan-loss provisions.

loans will be made to borrowers who cannot fulfil their obligations, and be lost by the lender.

The ratio of non-performing loans[25] to total outstanding lending by commercial banks decreased still further during the first half of this year to 1.3%, as compared to just over 1.63% at year-end 2003. This would suggest some improvement in the quality of the commercial banks' loan portfolios over this period. While this is certainly a welcome development, it should be borne in mind that sizeable year-on-year lending growth makes it impossible to draw firm conclusions at this stage as to the quality of the new loans. As pointed out in the last analysis of financial stability in March, the loan portfolios of the country's six largest savings banks appear to be of rather poorer quality and, although this situation had improved very slightly at the end of June, their ratio was still much higher than for the commercial banks, at 6.2%.

The banks' balance sheets continued to swell ...

Growth of the commercial banks' balance sheets showed no signs of abating during the first six months of this year, increasing by around 280 b.kr. or 18.8%. Their total balance sheet growth in 2003 was 420 b.kr.[26] At the end of June 2004, the commercial banks' assets totalled almost 1,768 b.kr. This is a vast rate of growth over a short period. By comparison, the total assets of commercial banks in Iceland were just over 222 b.kr. a decade ago. The assets of the six largest savings banks grew by 10.6 b.kr. during the first half of the year, bringing their total assets at the end of the period to just over 157 b.kr., an increase of 7.7%. Savings banks grew by much less than the commercial banks, which is only natural given their more limited opportunities.

... mostly due to lending growth ...

Of the 280 b.kr. increase in the commercial banks' assets in H1/2004, lending growth accounted for just over 195.5 b.kr. Outstanding loans have thus increased by 19.5% since the beginning of this year, which is broadly the same growth rate as in H2/2003. Lending by the six largest savings banks increased by 9.6 b.kr., or just over 9%, since the beginning of this year.

Lending growth of DMBs[27] from the beginning of the year to end of June was 15%, or 139 b.kr., while 12-month growth to the end of June was around 31%. The share of domestic borrowers in total DMB lending was 85%. Lending by DMBs to domestic borrowers increased by just over 11.5% from the beginning of the year to end of June, or by 94 b.kr. Corporate lending[28] grew by over 17% while loans to individuals remained practically unchanged. The increase in lending to foreign borrowers over the same period was 39.6%, or 45 b.kr.

A sectoral breakdown of DMB lending shows that domestic loans to the services sector grew the most over H1/2004, by 46%. The services sector includes domestic holding companies for investment purposes. Substantial changes have taken place in the Icelandic financial market in recent months, with major reshuffling of company ownership, more often than not involving holding companies. It is thus not unlikely that much of this 88.2 b.kr. first-half increase in lending to the services sector has been used to finance these transactions. A good portion of the loans used for leveraged buyouts or takeovers is probably secured with pledges in the companies concerned. This makes it important for these companies to return a sufficient profit to service their owners' debt and ensure that the quality of the loan portfolios is maintained.

According to the same classification, the second-largest increase in lending was to foreign borrowers. As pointed out in earlier analyses, transactions by Icelandic nationals who own holding companies registered abroad are classified under "foreign". Loans that are classified as made to foreign entities could thus easily find their way back to the domestic financial market. While the extent of such transactions is difficult to gauge, it can be assumed that a considerable share of DMB lending to foreign borrowers will be used to finance business activities abroad. As the banks go on expanding abroad, their lending to foreign borrowers may even be expected to gain momentum in the coming months. Some 31%

25. Loans for which special provisions have been made, less specific loan-loss provisions, plus additional interest-frozen loans.

26. The three large commercial banks account for practically all of this increase, or 279 b.kr.

27. Primarily commercial banks and savings banks. These figures are for loans by the parent company and not the group.

28. Other than to financial companies.

of loans made by commercial banks by the end of June were to borrowers outside Iceland; KB banki's share was the largest, at just over 46%. Its acquisition of FIH A/S has probably brought this share close to 80%.[29]

In all likelihood, the new housing mortgages announced by the commercial banks and savings banks will boost their lending to households, replacing loans by the HFF and pension funds. The loans need not be used for purchase of real estate but must be secured by a first priority pledge. This move puts the commercial banks and savings banks in more direct competition with HFF than before. Loans secured against residential real estate are among the lowest-risk forms of lending and it has been pointed out, for instance by the IMF, that such products have largely been absent from the Icelandic banks' portfolios. Such loans should in general contribute to bank stability. Nonetheless, a cautious approach is called for, paying careful attention to financing and credit control. The HFF's position and pension fund profitability could also be weakened.

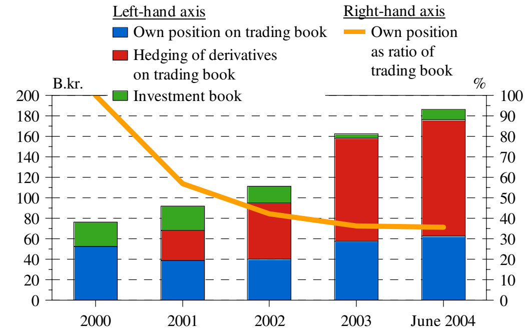
... and increased securities exposures

The commercial banks increased their securities exposures during the first half of the year by 55 b.kr., mainly in equities, where the increase was 36 b.kr. Total securities holdings[30] and holdings in affiliated and related companies on the commercial banks' balance sheets were worth around 320 b.kr. at end-June 2004, or just over 18% of their total assets.

Trading book bond positions increased by 18 b.kr. during the first half of the year, to 176 b.kr. at the end of June, of which around 114 b.kr., or 64%, were positions against customers' derivative contracts. Over the same period the commercial banks added substantially to their trading book positions in equities, which swelled by 40% to just over 125 b.kr., of which some 36 b.kr. were held against customers' derivative contracts. Part of this increase can be explained by rising prices in securities markets – the ICEX-15 index, for example, gained 40% during the period. Positions by banks against customers' derivatives has increased greatly in recent years. Positions against bond derivatives, for instance, have grown almost five-fold since 2000 and against

Chart 15

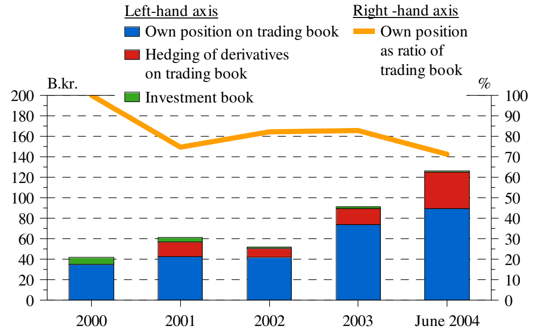
Bond positions of commercial banks 2000-2004[1]



1. Since not all hedging of derivatives was reported for 2000, some customer portfolios are included in the banks' own positions for that year. *Source:* Banks' annual/interim reports.

Chart 16

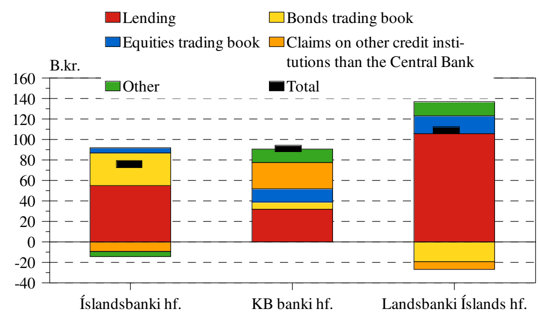
Equities positions of commercial banks 2000-2004[1]



1. Since not all hedging of derivatives was reported for 2000, some customer portfolios are included in the banks' own positions for that year. *Source:* Banks' annual/interim reports.

Chart 17

Asset growth of the three largest commercial banks in H1/2004



Source: Banks' annual/interim reports.

29. Based on the six-month statements of KB banki and FIH A/S.

30. Both trading book and investment book exposures.

underling equities tenfold. As pointed out in earlier analyses, there should be scope for commencing derivatives trading on a regulated market, making it simply a matter of time before domestic financial companies bring this about.

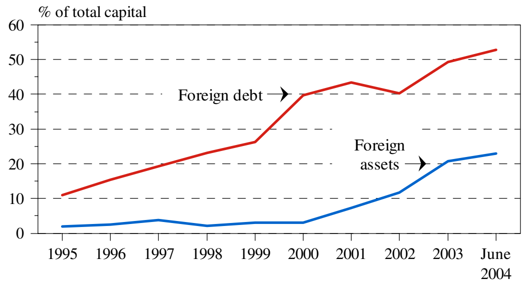
Financing was primarily exchange-rate linked

According to Central Bank statistics, more than three-quarters of the total increase in DMB capital during the first half of this year was financed in foreign currency. Some 60% of the increase was financed with exchange rate-linked securities issues. As has been discussed in previous analyses of financial stability, foreign credit is of very high importance for DMBs, especially the commercial banks, and to judge by these figures, it is by no means decreasing.

The foreign debt component in total financing of DMBs rose above 50% for the first time at the end of 2003, and has moved still higher during the first half of this year.[31] The share of foreign assets in the banks' total assets has also grown in recent years, and amounted to 23% at the end of June.

Chart 18

DMB foreign assets and debt as a proportion of total capital 1995-2004[1]

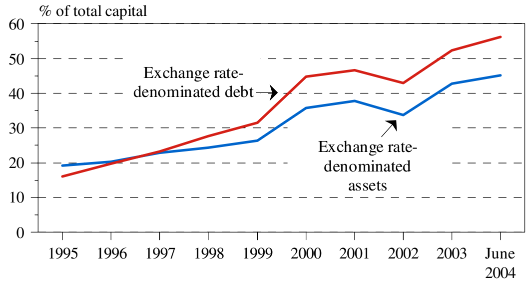


1. Data are not comparable between years. FBA became a DMB in 2000 (on merging with Íslandsbanki) and Kaupþing hf. (now KB banki) in 2000. Collection of data on lending to foreign entities commenced in 2001. *Source:* Central Bank of Iceland.

The difference is naturally less if exchange rate-linked items are included and not solely foreign items. The difference between exchange rate-linked assets and liabilities on balance sheets can largely be attributed to derivative contracts concluded by these banks with their customers. Considerably more customers are taking positions with the Icelandic króna than against it. To hedge these contracts, the institutions have to take on debt in foreign currency, which are included in their balance sheets, while the derivative agreements are off-balance-sheet items. Exchange rate-linked assets of DMBs at the end of June, for example, amounted to around 766 b.kr., while their exchange rate-linked liabilities were 187 b.kr. higher at 953 b.kr. At the same time, the three commercial banks' net foreign currency assets in connection with derivative agreements were 120 b.kr.

Chart 19

DMB exchange rate-denominated assets and debt as a proportion of total capital 1995-2004[1]

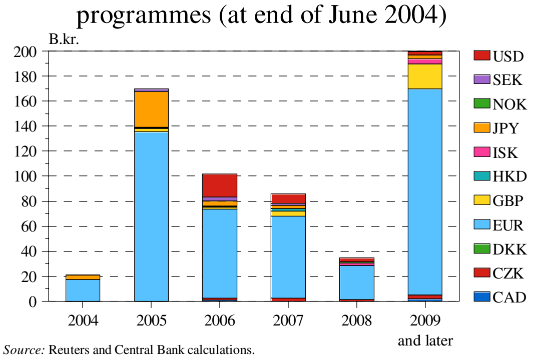


1. Data are not comparable between years. FBA became a DMB in 2000 (on merging with Íslandsbanki) and Kaupþing hf. (now KB banki) in 2000. Collection of data on lending to foreign entities commenced in 2001. *Source:* Central Bank of Iceland.

As discussed above, the commercial banks' total financing increased by around 280 b.kr. during the first half of this year. The increase was financed primarily by foreign securities issuance and borrowing. KB banki hf. floated the largest bond issue ever by an Icelandic bank within the MTN programme last May, for a value of €600 m., in

Chart 20

Maturity profile of commercial banks' MTN programmes (at end of June 2004)



Source: Reuters and Central Bank calculations.

31. According to Central Bank statistics.

Box 3 Sound practices in foreign currency liquidity management

On the initiative of the Central Bank of Iceland and the Financial Supervisory Authority (FME), a discussion team with their representatives and others from the three largest commercial banks was established in mid-2004 to exchange views on foreign currency liquidity management. The group reached conclusions on specific aspects of sound practices in foreign currency liquidity management, which are outlined below. The FME plans to set guidelines based on the group's work and published a draft (discussion paper no. 3/2004) on its website on September 10. Financial companies have a deadline until September 30 to submit their comments on it. It is hoped that the proposals will lead to more transparent foreign currency liquidity management and enhance credibility. Better consistency should be achieved between the banks with respect to factors that need to be taken into consideration and the FME and Central Bank can receive more extensive information, in addition to which the FME should be facilitated in its task of supervising foreign currency liquidity management.

- *Management structure and responsibility.* The banks' organisational charts should clearly present the management structure and responsibility for liquidity management.
- *Strategy.* Senior management need to define a strategy for their liquidity positions and liquidity management. In particular, a strategy shall be defined for managing foreign currency liquidity.[1]
- *Senior management review*. The board, senior management and others involved, such as the Asset/Liability Committee or the like, shall regularly discuss liquidity management.
- *Limits*. Each bank shall, at a minimum, set limits for the ratio of liquid assets denominated in foreign currencies and credit lines (i.e. those available to liquidity management) against the cash flow of foreign currency liabilities at least one month ahead. Limits shall also be set for the net position of exchange rate-linked items for different residual maturities.
- *Day-to-day management*. The foreign liquidity position should be monitored on a daily basis, both within individual currencies and as a whole, and the bank's limits shall be calculated with respect to them.
- *Foreign funding*. Foreign funding requires regular evaluation of access to different sources (notes, commercial paper, loans, interbank deposits, etc.). In this regard, priority should be given to a good credit rating and a diversified investor and investor group base. Maintenance of customer relations should also be addressed.
- *Alternative sources*. Alternative sources of finance need to be addressed, i.e. the types and amounts of alternative sources. Asset liquidity should be considered as an alternative source of finance.
- *Stress testing*. The foreign liquidity position shall be regularly assessed on the basis of different scenarios. Special evaluation shall be made of debt service from borrowers of exchange rate-linked loans who do not have foreign currency revenues.
- *Exchange rate-linked lending*. The scope of exchange rate-linked assets/loans to borrowers who do not have foreign currency revenues shall be specially monitored.
- *Parent and group*. If cash management is centralised, i.e. on a group basis, the above principles, including limits, shall apply to the group and the parent.

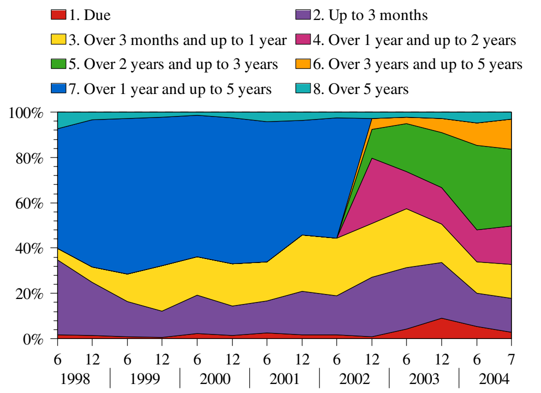
1. Exchange rate-linked items are defined in Article 2, paragraph 1 of the Central Bank of Iceland Rules no. 387/2002, on Foreign Exchange Balance.

addition to issuing subordinated debt in June amounting to €450 m.[32] Most of the commercial banks' refinancing under the MTN programme for 2004 appears to be completed, but based on the outstanding MTN bond amount at the end of June, some 170 b.kr. (€2 billion) will need to be refinanced next year. During the first six months of this year, the commercial banks issued bonds under their MTN programmes for a total value of 295 b.kr. (€3.5 billion), which appear to have been well received.

Previous analyses have pointed out the large scale of growth in foreign short-term borrowing by commercial banks and savings banks. In this respect, developments in 2004 have been positive, since the proportion of foreign short-term claims to total foreign claims on Icelandic commercial banks and savings banks dropped from 51% at year-end 2003 to 33% at the end of July.[33] The greatest increase in amount has been in debt with a maturity of 2-3 years although maturities of 3-5 years have also increased. It is not sufficient, however, merely to examine foreign borrowing in terms of extended maturity. From the risk perspective it is necessary to match the maturity of financing as closely as possible to the assets being financed, and in fact achieving this balance is even more important. This summer the

Chart 21

Proportion of claims by foreign entities, by residual maturity 1998-2004



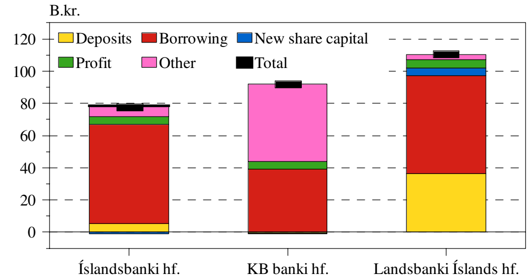
Source: Central Bank of Iceland.

Central Bank and FME held talks on foreign currency liquidity management with experts from the largest commercial banks. Box 3 presents the results agreed upon by this task force for promoting sound practices in foreign currency liquidity management. On September 10, the FME published on its website discussion paper no. 3/2004 drafting a guideline on this topic.

The financing of all the banks, however, is not based solely on borrowing. Landsbanki's deposits increased considerably, in addition to which the bank issued new capital with a nominal value of 600 million kr. at the end of March. KB banki also issued new share capital in July with a nominal value of over 5.5 b.kr., which will be recorded in Q3.[34]

Chart 22

Growth in total capital of three commercial banks in H1/2004[1]



Borrowing consists of both direct borrowing and securities issuance. A subordinated debt issue of 40 b.kr. accounts for the bulk of KB banki's category "Other".
Source: Banks' annual/interim reports.

Capital ratio rose

The CAD ratios of the commercial banks and the six largest savings banks rose during the first half of this year. The increase to a large extent reflects the strong equity position of KB banki following its issuance of subordinated debt for a value of 40 b.kr., as previously mentioned. All in all, the capital position of the commercial banks and six largest savings banks is relatively strong at the moment, as all of them have a CAD ratio of 10% or more. They thus still have considerable scope for expansion.

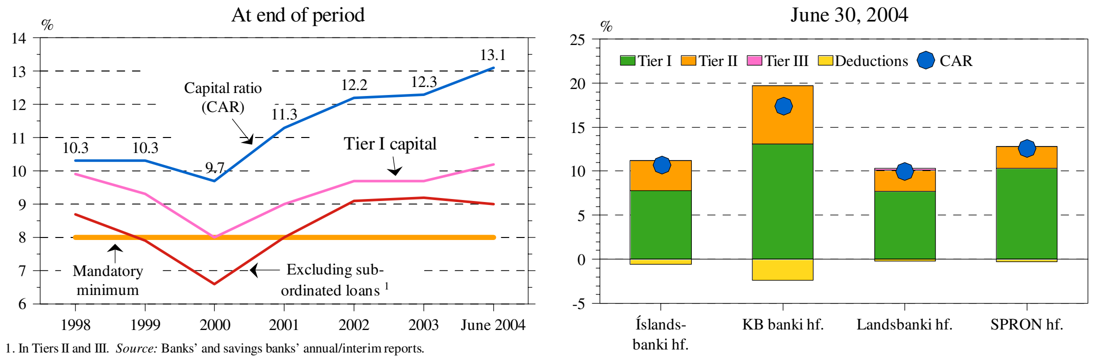
32. In part to finance its acquisition of the Danish bank FIH.

33. This is based on residual maturity rather than original maturity, where the development is even more favourable.

34. In part to finance its acquisition of the Danish bank FIH, the market price of which was around 40 b.kr.

Chart 23

Capital ratio of the commercial banks and six largest savings banks 1998-2004



1. In Tiers II and III. *Source:* Banks' and savings banks' annual/interim reports.

Domestic markets

Housing Financing Fund bonds registered with Euroclear

Iceland's securities market is small and although the establishment of the Iceland Securities Depository (ISD) has been a successful move, it has a low profile among foreign investors. Agreements with Clearstream in the spring were one step towards raising that profile. The HFF's decision to have its new HFF bonds registered with Euroclear was unquestionably positive for the domestic securities market's international links. However, details and information about the arrangement were on the short side to begin with. In connection with the listing of HFF bonds on ICEX, Deutsche Bank AG London became a member of the exchange. Although it is too early to judge, the new member is likely to strengthen and diversify ICEX.

Norex expands

Nordic stock exchanges have been cooperating for many years on various aspects of exchange operations, sharing their experience and addressing a variety of common interests together. This cooperation evolved into Norex, which adopted a single trading system and a harmonised regulatory framework under what is probably a unique arrangement by international standards. Helsinki Stock Exchange and the Baltic exchanges joined Norex during the year. A common market has thus been established incorporating several countries, which strengthens the infrastructure of each member and greatly enhances the efficiency of exchange operations. Trading systems are expensive, and their maintenance and development is virtually beyond the means of smaller exchanges. The Norex alliance gives Nordic stock exchanges access to an advanced trading system. New membership expands the operating base and brings in system knowhow, and the operation of a shared system in so many countries gives the partnership a higher profile at international level.

KB banki's equity offering

KB banki decided to procure the finance for its acquisition of the Danish bank FIH with an equity offering. This pre-emptive rights issue was very large by Icelandic standards, amounting to almost 40 b.kr., the equivalent of 4% of GDP. The offering went flawlessly, reinforcing the view that the Icelandic market is maturing and is now capable of handling projects on such a scale. Transactions of this magnitude pose a challenge for payment system resources and intermediation. Settlements were made without any hitches and parties to them seemed well aware of the impact this would have on their own cash flows, which was reflected in their repo transactions with the Central Bank.

Changes to HFF bond issues

A major reform of HFF bond issues was made at the beginning of July when a new class – HFF bonds – was issued and swaps of several older classes of housing bonds and housing authority bonds were offered at the same time. Since HFF issues have formed the backbone of the domestic bond market in recent years, it was important for the switchover to go smoothly. At the end of last year a report was published on HFF financing arrangements, compiled by a committee appointed by the Minister of Finance, with the agreement of the Minister of Social Affairs, in 2002. A bill amending legislation on the HFF was subsequently presented to parliament in February and passed in May. A rather tight schedule was drawn up for the switchover, but on the whole it went fairly smoothly. The short deadline for swaps, limited information about the issue and the lengthy registration process for the bonds were the main shortcomings that emerged. For example, the Central Bank had to take special action regarding collateral for credit institutions' transactions with it, because HFF bonds could not be put up as collateral for more than a week after being registered. It does not seem necessary to have allowed such a short time for the changeover.

Foreign markets

The global financial system has strengthened, but uncertainty lies ahead

The global financial system has strengthened recently in line with the improved outlook and general global economic recovery. The financial system appears to have recuperated from the economic contraction that began around the time that the equity bubble burst. Markets seem better equipped than often before to accommodate the upward trend in US interest rates. Furthermore, the position of financial companies is currently strong. Uncertainties remain, however, in connection with changes in monetary and fiscal policies, as well as economic developments and the global security situation.

The widespread economic recovery, expansionary monetary and fiscal policies and improved position of businesses have sustained equity prices and driven spreads down in the recent past, both in developed and emerging market countries.

Over the past few months uncertainties have arisen in the climate of rising interest rates created by tighter monetary policy and a rise in bond yields in Q1, although they have since dropped again. After many years of favourable conditions, bond markets have tightened as uncertainties mount. Yet despite the downturn in conditions, major markets have been lively. In particular, the economic climate, more focused risk management by many credit institutions and foreseeable rises in the Federal Reserve's funds rate have helped this adjustment.

Monetary and fiscal policies are likely to be the main factor influencing financial markets in the next few months when the economic stimulus dies down. Market participants are now focusing on how the economic recovery is unfolding and the impact this has on interest rate levels and asset values, since authorities have underlined that they will take immediate action if stability comes under threat. Expectations could therefore change rapidly.

So far, low inflationary pressures have dampened expectations of a sharp interest rate spiral in the US and Europe. Despite low rates of core inflation, prices of oil and other commodities have soared. Market participants foresee low long-term inflation, but this cannot be taken for granted, especially if the negative output gap in the main industrial countries continues to close. In some cases authorities are also concerned about sector-specific inflation, especially in the real estate market. At the same time, the low interest rate climate in the recent period has increased the risk appetite of investors. This has spawned a rise in debt and substantial growth in the number of hedge funds.

Other risk factors that could affect financial markets include the continued large external imbalances of many countries, e.g. between the US and various Asian states. Persistent imbalances may destabilise forex markets and put downward pressure on asset prices. Such a risk could be at hand if, for example, growth in China slows down sharply.

Also at work are the volatile political situation in the Middle East and the ongoing terrorist threat. In recent months this uncertainty has contributed to higher oil prices. The risk is that further oil price hikes will dampen economic activity and put pressure on the balance of payments of countries that are heavily dependent on oil imports. Subdued risk appetite among investors, higher interest rate premium and lower asset prices are also likely.

Finally, rising interest rates have struck a blow at some emerging market countries' financing conditions, with accompanying jolts to the financial markets. In the opposite direction, emerging market economies have witnessed robust growth in recent years and some have refinanced prudentially, redu-

Table 2 Credit ratings of Icelandic commercial banks

	Original	*Date*	*Current*	*Date*[1]	*Outlook*
Íslandsbanki hf.					
Moody's[2]	A3/P-2/D+	December 1997	A1/P-1/B-	April 2003	Stable
Fitch[3]	A/F1/C/2	February 2001	A/F1/C/2	February 2001	Stable
KB banki hf.					
Moody's[2]	A3/P-2/D	June 1999	A2/P-1/C+	December 2003	Under review
Landsbanki Íslands hf.					
Moody's[2]	A3/P-2/D	February 1998	A3/P-1/C	February 1998	Positive
Fitch[3]	A/F1/C/2	May 2001	A/F1/C/2	May 2001	Stable

1. Date on which the respective bank was awarded the long-term rating in effect in August 2004.
2. Moody's: Long-term/short-term/financial strength.
3. Fitch: Long-term/short-term/individual/support.

cing the risk of complications. However, some emerging market countries are still highly in debt.

Icelandic bank issues in international markets have gone smoothly

Market issuance by Icelandic banks has gone very smoothly this year. Icelandic banks have been establishing themselves in the market in recent times and have built a diversified investor base. The bulk of Icelandic bank issuance in 2004 has been denominated in euros in the FRN market, which has been lively so far this year. Issuance has been under the banks' EMTN programmes. The main trends in this market have been that Icelandic banks have been issuing at longer maturities than before, with larger issue sizes and at more attractive terms. Banks have also used the EMTN programmes for smaller issues, for example linked to derivatives

Icelandic banks have also tapped the syndicated loan market in 2004. Conditions have been very favourable in this market recently, partly because of excess liquidity among international banks. The same trend seems to have characterised Icelandic banks' borrowing in this market, i.e. longer maturities, larger amounts and improved terms. To some extent, Icelandic banks now use syndicated loans as undrawn facilities or guarantees for their ECP note programmes. Overall, the Icelandic banks' ECP outstandings have been fairly steady so far this year.

One precondition for the Icelandic banks' improved performance in the markets has been their credit ratings. Íslandsbanki hf., KB banki hf. and Landsbanki Ísland hf. are rated by Moody's Investors Service, and Fitch Ratings also awards ratings to Íslandsbanki and Landsbanki Íslands. The first Icelandic commercial bank to be awarded a rating was Íslandsbanki hf., followed by FBA (which merged with it in 2000). Afterwards came Landsbanki Íslands hf. in February 1998, then in June 1999 Búnaðarbanki Íslands hf., which subsequently merged with Kaupþing banki hf. in 2003. Moody's long-term ratings for foreign obligations of the Icelandic banks are in the range A1-A3, and all are rated P-1 for short-term obligations. Fitch has awarded Íslandsbanki hf. and Landsbanki Íslands hf. the same ratings: A for foreign long-term obligations and F1 for short-term obligations.

During the period when Icelandic banks have been rated, they have undergone privatisation, mergers and takeovers, both in Iceland and abroad. At the moment, KB banki's rating is under review for a possible upgrading. FIH of Denmark, which KB banki is in the process of acquiring, had a rating of A1/P-1 from Moody's.

Thus the Icelandic banks' foreign funding has gone smoothly so far this year. Maturities have lengthened and terms have improved. Foreign credit markets – especially bond markets – have become crucial for the banks, so that a setback in refinancing, e.g. sparked by a downturn in market conditions or change in credit rating, could cause them liquidity problems. However, neither scenario is currently likely as the markets remain liquid and the banks' credit ratings strong. *Monetary Bulletin* 2004/1 pointed out that while the Central Bank has virtually unlimited scope for providing domestic liquidity facilities to a credit institution with adequate capital, this is substantially restricted if the liquidity problem occurs in a foreign currency.

Payment systems

New rules function well

In October 2003 the Central Bank of Iceland adopted new rules on the activities of payment systems, i.e. Rules No. 788/2003 on the Central Bank of Iceland Real-Time Gross Settlement System, and Rules No. 789/2003 on Activities of Netting Systems. These Rules clarify the role and responsibilities of the Central Bank, credit institutions and other parties involved in payments and settlement. They specify conditions for system participation, the process of payment transfers and settlement, various operational details and risk management. Furthermore, they create a legal basis for agreements between the Central Bank and credit institutions on settlement collateral. In the Central Bank's view, these rules have enhanced legal certainty and transparency in system operations.

Settlement collateral

Since mid-2002, the Central Bank has been cooperating closely with credit institutions to ensure that satisfactory collateral is always at hand for their payment system exposures. Secure collateral needs to be at hand in the event that a credit institution cannot honour its settlement obligations at the close of the day. Adequate collateral for payment system settlement is therefore vital for ensuring the sound operation of the financial system.

Collateral pledged by all credit institutions in the RTGS system totalled 15.3 b.kr. at the beginning of 2003, and in the netting system operated by Fjölgreiðslumiðlun hf. (FGM) 1.3 b.kr. At the beginning of 2004, collateral totalled 19 b.kr. in the RTGS system and 0.9 b.kr. in the FGM netting system. Collateral amounts were revised in mid-2004 and currently stand at 16.6 b.kr. in the RTGS system and 3.2 b.kr. in the FGM netting system.

The Central Bank reviews collateral amounts on the basis of the highest daily settlement exposure that it has recorded for each credit institution. Credit institutions may not exceed the authorised exposure limit that their collateral covers. They aim to arrange their cash management in such a way as to reduce the amount of funds tied up as collateral. The Central Bank has also contributed to reducing the need for collateral by lowering the minimum payment amount that qualifies for the RTGS system, combining reserve accounts and RTGS settlement accounts, and by encouraging credit institutions to send payment orders only by electronic means to the RTGS system. As a result of close cooperation with credit institutions, they exceed their RTGS authorisations only under absolutely exceptional circumstances.

Hopefully this will enable the RTGS system to be changed so that payments which would lead a credit institution to exceed its authorised exposure limit are automatically rejected. Such a change could even be implemented next year.

Operational risk in payment systems

In recent years the Central Bank has focused in particular on limiting legal, credit, liquidity and settlement risks in the payment systems. Through the changes that have been made to Icelandic payment systems, the Central Bank considers that significant progress has been achieved in limiting these risks. The Central Bank considers that there is now both the opportunity and the need for careful evaluation of operational risk in Icelandic payment systems. Clearly it will need to cooperate closely on this task with the Icelandic Banks' Data Centre, which is largely responsible for system facility operations, and the FGM. The Central Bank could adopt official rules stating formal requirements for management of operational risk, e.g. with respect to risk measurements, testing and presentation of information. However, the Bank feels that a more fruitful course would be to reach agreement on common goals and cooperation on this task. One possibility might be an agreement emphasising that the system operator should be aware of and have knowledge of operational risk, transparency in the functioning and activities of systems, risk measurements and testing, exchange of information and contingencies. Such an agreement could provide a basis for extending these principles to take account of evolving circumstances.

Appendix Internationalisation of the financial system requires ongoing adaptation of the Central Bank's tasks

Internationalisation of the Icelandic banks has led to some changes in the Central Bank of Iceland's working methods, and closer cooperation both in Iceland and abroad. More changes are required, however. The following are some of the tasks currently facing the Central Bank:

- A possible re-evaluation of prudential rules set by the Central Bank of Iceland. By law the Bank sets rules for the liquidity ratio of credit institutions and for their foreign balance, as described on p. 85. These prudential rules apply only to domestic credit institutions, i.e. the parents and not on a consolidated basis. No special limitations on inter-group trading are in effect which might affect the honouring of these prudential principles.
- A wider scope of financial stability analysis. Shocks to the financial system can now more easily originate from markets in other countries. Analysis of related risk factors needs to be stepped up. One example of an adaptation to this development is that the financial stability departments of the Nordic central banks regularly exchange information on their assessments for their home countries, because individual banks now operate in more than one Nordic country. These information exchanges are now becoming more important for the Icelandic analysis.
- Adaptation of statistics collected. As business becomes more international in character, it is increasingly more difficult to gauge statistics provided by the banks. For example, credit to foreign borrowers is not sufficiently broken down by country, sector or other classifications applying to domestic borrowers. Likewise, it is not always certain whether a transaction should be regarded as domestic or international. It has become harder to determine how much of the banks' credit expansion will impact the domestic economy.
- Greater need for soft information and contacts with counterparties. The pace of events has sped up and the necessary feel for where institutions and markets are heading is harder to come by. Ongoing dialogue with key people is a seldom-mentioned part of the functioning and preparedness of a central bank. The Central Bank also needs to strengthen its contacts with other central banks. Higher levels of foreign debt and assets associated with expansion abroad are sure to lead to more discussions with rating agencies, the IMF, the OECD, etc.
- The appropriate level of foreign exchange reserves. The Central Bank should at all times have an appropriate level of foreign reserves and thereby promote sound external liquidity of the economy. Credibility and ready access to capital markets are important factors in this respect.
- Emergency lending assistance and crisis management will become more difficult should such circumstances arise. The size and complexity of situations that might arise have grown. So has the number of parties that might have to be involved, domestically and abroad. If a bank in need of ELA is domiciled in a Nordic country and has at least one cross-border establishment in the area, the provisions of the Nordic central banks' MoU may apply.[1]
- More need for expert staff in the Central Bank. It must have access to specialists who have detailed knowledge of the type of business that international investment banks are involved with and legal complexities that can arise.

Analysis and risk measurement are important tools in efforts to maintain financial stability. What makes risk measurement difficult is how to relate the low probability of events to the magnitude of their effects on the economy, and as a bank expands in other jurisdictions, these effects become more uncertain. The important point here is how to cope

1. http://www.sedlabanki.is/uploads/files/NordiskMoUGenerellslutligENG.pdf

with the main risk factors that the bank is exposed to. Credit risk, market risk and operational risk will be well covered by the implementation of the Basel 2 capital adequacy standards, but what seems more uncertain is how to cope with the liquidity risk. Moreover, some analysts argue that it is liquidity that protects banks and financial stability from uncertain events, not capital itself.[2] The Central Bank and the Financial Supervisory Authority (FME) monitor liquidity requirements for Icelandic banks. As a bank expands rapidly abroad the Central Bank and the FME might experience difficulties in foreseeing the probability of a liquidity drain within domestic borders, caused by a foreign subsidiary bank. In this respect, these institutions might be confronted with difficulties in preventing turbulence within the domestic economy.

According to Article 104 of the Icelandic Act on Financial Undertakings, many of its prudential provisions apply for both the individual bank and the consolidated group, including the provisions of Article 83 regarding liquidity. The rules on large exposures which are based on Directive 2000/12/EC do not envisage a ceiling on exposures between parent and subsidiary as they are consolidated as a group. It is interesting to note that in Denmark there is no such exposure ceiling within a group but the subsidiary is not allowed to provide the parent with credit without the permission of the Danish FSA. In Iceland the implementation of Directive 2002/87/EC concerning supplementary supervision of financial conglomerates is being prepared, to take effect no later than the beginning of 2005. In that implementation an amendment to the Act on Financial Undertakings will be proposed which calls for further supervision of transactions between members of a group. The implementation of the Directive and accompanying regulation is expected to strengthen supervision of cross-border activities.

The interplay between the Central Bank and the FME needs to be effective and in line with the cross-border expansion of the banks. Fundamentally, this interplay is determined by the Cooperation Agreement (MoU) signed by these institutions.[3] The cross-border expansion of the Icelandic banks does not in itself call for a change in the cooperation between the Central Bank and the FME. The channels and information exchange are in place, but increased contact may be expected along with efforts to formalise cooperation with other central banks and supervisors in countries where subsidiaries and branches of Icelandic banks are domiciled.

These issues are important for the effectiveness and safety of the financial system. The Icelandic financial system has expanded its horizons and is becoming increasingly international in character, and former state banks have now been fully privatised. Households and businesses now have a more dynamic financial system than before. The Central Bank adapts its activities to these circumstances on the basis of the legislation governing it.

2. C.A.E. Goodhard (2004), “Some New Directions for Financial Stability?”, *Per Jacobsson Lecture*, pp. 10-11.

3. http://www.sedlabanki.is/uploads/files/Agreements1.pdf