FINANCIAL STABILITY

2005

Contents

Financial stability means that the financial system is equipped to withstand shocks to the economy and financial markets, to mediate credit and payments, and to redistribute risks appropriately.

The purpose of the Central Bank of Iceland's Financial Stability Report is:

- To promote informed dialogue on financial stability, i.e. its strengths and conceivable weaknesses, the macroeconomic and operational risks that it may face, and efforts to strengthen its resilience;
- To provide an analysis that is useful for financial market participants in their own risk management;
- To explain how the Central Bank carries out the mandatory tasks assigned to it with respect to an effective and sound financial system.

Published by:
The Central Bank of Iceland, Kalkofnsvegur 1, 150 Reykjavík, Iceland
Tel: (+354) 569 9600, fax: (+354) 569 9605
E-mail: sedlabanki@sedlabanki.is
Website: www.sedlabanki.is

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Icelandic letters:
ð/Ð (pronounced like th in English this)
þ/Þ (pronounced like th in English think)
In *Financial Stability*, ð is transliterated as d and þ as th in personal names, for consistency with international references, but otherwise the Icelandic letters are retained.

Symbols:

*	Preliminary or estimated data.
0	Less than half of the unit used.
-	Nil.
...	Not available.
.	Not applicable.

Introduction

Broadly sound financial system in spite of imbalances

The finding of the Central Bank's analysis is that in spite of rapid expansion and the macroeconomic imbalances that need to be tackled in the coming years, the Icelandic financial system is broadly sound. It is sound in the sense of being equipped to withstand shocks to the economy and financial markets, to mediate credit and payments, and to redistribute risks appropriately.

The Central Bank of Iceland has now launched its *Financial Stability* report as a separate publication. Regular publication of financial stability reports began in February 2000 with the Bank's first survey of the strengths and weaknesses of the financial system, and until now they have been included in the quarterly *Monetary Bulletin*. The purpose is to promote informed dialogue, strengthen risk management and explain how the Bank carries out its mandatory tasks in this field. In line with the general trend in central banking and to distinguish more clearly between the message of monetary policy and financial stability priorities, the Bank is now publishing its first separate *Financial Stability* report.

Growing macroeconomic imbalances have emerged over the past year and have been reflected in rapidly growing domestic demand, increasing inflation, high asset prices and a widening current account deficit which will peak this year. These conditions increase the probability of eventual strain on the financial system. Nonetheless, the position of most households and many businesses appears to have improved in the short term. The main risk that economic developments could pose to the financial system is the possibility of a downturn in the overall financial conditions of the economy or other external shocks coinciding with the adjustment following the intense economic activity of 2005 and 2006 when the bulk of the investments in the aluminium and power sectors takes place. While such a scenario looks improbable at present, it could result in a significant fall in asset prices. For this reason among others, the Central Bank has considered it necessary to make timely rises in the policy interest rate, to pre-empt the need for even more stringent measures when the investments in the aluminium and power sectors come to an end.

Conditions for procuring credit in international markets have been exceptionally easy in the recent term. Credit supply is ample, interest rates low and risk premia at a minimum. There are few indications that these exceptionally favourable conditions will alter in the short term. Icelandic financial companies and their customers have taken advantage of easy and favourable foreign credit for investment. The credit ratings of Icelandic banks have strengthened and they now have better fundamentals for supporting the expansion of Icelandic businesses in both domestic and international markets, as well as for direct penetration of new fields in international business in

their own right. Their foreign financing has reached a record level and in the recent term nine-tenths of the increase in the banks' borrowing has been in the form of long-term debt, which is a marked improvement from the times when they relied too heavily on short-term borrowing. Another positive development is that the banks have overwhelmingly financed their international expansion with issues of share capital and subordinated debt.

Iceland's external debt – especially that of the banking sector – has soared in recent years and is now equivalent to twice the annual GDP. This is one of the weakest links in the economy. All the agencies that assign ratings to the Republic of Iceland and to the banks identify this as a risk and warn that increased indebtedness could lead to a downgrading of credit ratings. Although foreign assets have also grown rapidly and are substantial, large imbalances and risks are present. A large and prolonged depreciation of the króna could cause difficulties in the debt positions of businesses with no hedges against such a development. Icelandic credit institutions must maintain their unhedged positions within narrow limits set by the Central Bank. The main risk faced by the banks is therefore if their customers cannot honour their liabilities towards them due to foreign exchange risk.

The year 2004 marks a milestone in Icelandic banking. Total assets of the commercial banks and largest savings banks almost doubled due to acquisitions of foreign subsidiaries and lending growth. The point has now been reached where half of the assets of the three large commercial banks are held by their foreign subsidiaries. Overseas expansion by Icelandic commercial banks has a raft of consequences. Icelandic banks have become larger and more international in character and the core of their consolidated balance sheets is shifting abroad, even though their headquarters, risk management and liquidity management remain in Iceland. Acquisitions of foreign subsidiaries have broadened the banks' income base and dispersed their risks, leaving them less exposed to domestic shocks, but correspondingly more exposed to foreign risks.

Another milestone last year was in the mortgage market, when plans announced by the Housing Financing Fund (HFF) to raise its loan-to-value ratio and maximum loan amounts provoked a response from other credit market agents. The commercial banks and savings banks began offering mortgage loans on much easier terms and on a larger scale than before. Mortgage lending to households has surged, but has partly been deployed on prepayment of older loans on less favourable terms, and on consumption. The timing of this wave of competition was inappropriate from a macroeconomic point of view but it represents a positive step for financial system fundamentals and efficiency, and warrants a review of the public sector's role in the mortgage market. Increased mortgage lending consolidates the deposit money banks' (DMBs') operating base, provided that moderate loan-to-value ratios are observed and liabilities are appropriately matched to assets. So far, the banks have only partly matched their liabilities to their mortgage lending, so their interest rate risk has grown. It is important to tackle this imbalance at the first possible instance.

Lending by the commercial banks and largest savings banks soared in 2004 and has continued apace so far this year. On a consolidated accounts basis, more than half the lending growth is explained by acquisitions of foreign subsidiaries. Loans to non-residents have grown rapidly but it is reassuring that the bulk of lending is to stable regions where the general economic situation is good. Nonetheless, domestic credit growth is far in excess of what is compatible with long-term stability and has made a substantial contribution to expansionary trends and inflation. In March 2005, the twelve-month growth in domestic lending by DMBs was more than 40%. Main indicators suggest that loan quality is high but it should be borne in mind that steep and swift lending growth may later lead to higher loan losses. A downturn in the economy could cause a deterioration in loan quality with a corresponding effect on financial stability.

Total large exposures have increased and the Financial Supervisory Authority (FME) has pointed out that individual borrowers or groups of connected clients can pose a large credit risk on the books of more than one financial company. Potentially, the authorised maximum amount of a single exposure could put up to one-quarter of the banking system's own funds at stake. The importance of this consideration for the solvency of individual financial companies and financial stability goes without saying.

A considerable amount of lending has been made against share collateral and has increased as a proportion of the soaring market value of companies listed on Iceland Stock Exchange (ICEX). Such leveraged stock purchases could be questionable if equity markets turn down. This form of financing contributed to last year's surge in Icelandic equity prices compared with those in other countries.

As always, many aspects of the operations of financial companies and markets need careful consideration, but the most important point is that the position of the financial companies appears to be sound. Profitability is at a record level and although trading book gains are the main explanation, regular interest income and income from fees and commissions also make a significant contribution. The commercial banks and largest savings banks have strong capital positions and ample liquidity, which are important preconditions for financial stability. Overall, the financial companies are well equipped to weather conceivable setbacks.

The Icelandic bond and equity markets have grown in scope and their frameworks have been strengthened in recent years. The same applies to the interbank FX market. Brisk trading can make the FX market more volatile than others, partly because of the small number of market makers. This is a localised problem which is difficult to rectify. Important international measures to harmonise the legal framework of financial companies are in the offing, most notably the introduction of Basel II and International Financial Reporting Standards. Neither is expected to result in major changes in the operational foundation and position of Icelandic businesses and financial companies.

The Central Bank has been systematically enhancing the Icelandic payment and settlement systems in recent years. Reforms

have included a redefinition of settlement procedures and the introduction of requirements for risk management. In light of a recent assessment by outside experts, it is clear that a review of the structure and operational arrangements for the RTGS system is needed, with the aim of reducing its operational risk.

Included in this report is an article deposit quarantees and investor compensation. The Depositors' and Investors' Guarantee Fund performs an important role in consumer protection in the financial markets and boosts the resilience of the financial system. The article describes the legal and regulatory framework in this field, the fund's assets and investment strategy, payments from it, the amount of guaranteed claims and minimum coverage. It is reassuring to see that the fund's operations are well on a par with norms across the European Economic Area, although its scope for providing minimum coverage in the ever-changing financial environment needs to be constantly observed.

Finally, it should be reiterated that caution is important, given the rapid pace of change in the Icelandic financial system. Privatisation, mergers, international expansion by the banks and their customers, demand for mortgage loans and radical changes in the scope and character of financing are all fundamental changes that the financial system has been tackling in very recent years. Such transformations present countless opportunities, but risks as well. Companies form new business contacts and enter new fields where they cannot rely on past experience. This imposes a strain upon their management, and it is vital to maintain a clear overview and keep a close watch on all the new forms of business that are embarked upon.

Financial services in Iceland have been radically transformed and this has been accompanied by many challenges that need to be effectively addressed. Every participant in the financial system weighs up the gains and the risks and looks after its own interests, but this does not enable adequate provision to be made for the interests of the whole. Financial stability is a public good, like price stability. With its *Financial Stability* report, the Central Bank of Iceland aims to contribute towards safeguarding this public interest.

Favourable external conditions but growing macroeconomic imbalances

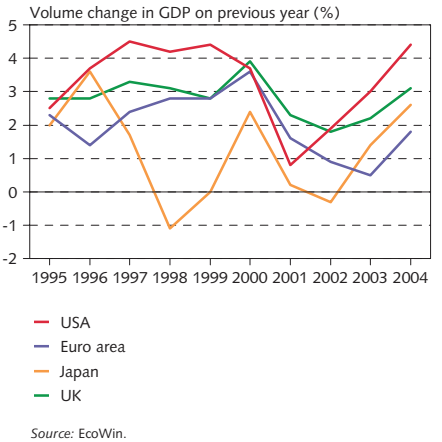
Signs of growing macroeconomic imbalances have emerged over the past year and have intensified since the Central Bank of Iceland published its last Financial Stability *report in September. Domestic demand, in particular private consumption, has grown rapidly, inflation has been increasing, the real exchange rate has risen, the current account deficit has widened and asset prices are high and still heading upwards. These conditions increase the probability of eventual strain on the financial system. Nonetheless, the position of most households and many businesses can be expected to have improved in the short term. High and growing levels of debt, high asset prices with a correspondingly greater risk of an eventual downturn, and the outlook for a rise in both domestic and foreign interest rates could result in problems in the long run, however. The main risk that economic developments could pose to the financial system is the possibility of a downturn in the overall financial conditions of the economy and other external shocks coinciding with the adjustment following the overheating caused by investments in the aluminium and power sectors in 2005 and 2006. While such a scenario looks improbable at present, it could cause a significant fall in asset prices. For this reason, the Central Bank has underlined the need for a timely tight monetary stance to pre-empt higher inflation, which would otherwise demand even more stringent measures later and conceivably cause asset prices to slump. A restrictive economic policy reduces the probability that this will happen. Conditions for procuring credit in international markets have been exceptionally easy in the recent term. Low interest rates have led investors to seek higher yields by investing in higher-risk bonds. Risk premia have therefore been decreasing. The chief risk faced by the financial system is that the historically favourable financial conditions of recent years could be reversed. Trading in domestic markets has been smooth over the past year. The main potential disruption facing domestic markets would be the combined effect of sharp changes in international markets, high domestic asset prices and a turn of events in the domestic economy that could provoke an unforeseeable price slump in domestic asset markets.*

Macroeconomic conditions for financial stability

Global conditions for financial stability favourable in many respects

In many respects, global conditions for financial stability are favourable. The recovery in Europe is admittedly sluggish, but growth has gained more pace in the US. As a result of the relatively slow rate of recovery, global financial conditions have remained very easy. The outlook is for short-term interest rates in Europe to stay low for the time being. In the US, short-term rates have been rising steadily since June last year and the Federal Reserve's funds rate is currently 2.75%, which is 1.75 percentage points higher than a year ago. The higher funds rate did not appear to have much effect on US long-term interest rates last year, but recently they have edged up, at the same time as increased inflationary pressures have been felt. Low interest rates in the US, Japan and Europe eased pressures on the global financial system in the short term, but in the long run they may signal imbalances and contribute to greater risks in the financial system.

Chart 1
Economic growth in main regions 1995-2004

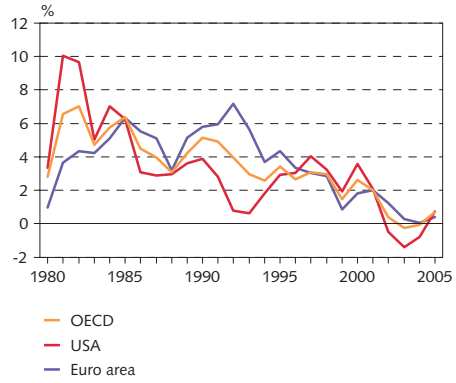


Source: EcoWin.

Chart 2

Weighted average real interest rates in the OECD[1], the USA and the euro area 1980-2005

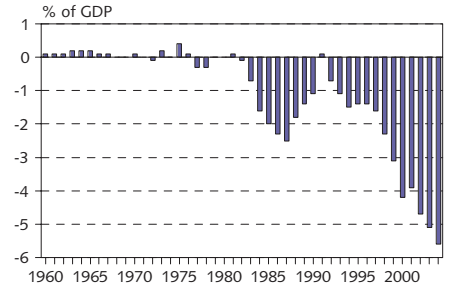
Annual data for three-month money market interest rates, in real terms based on the CPI.



1. Weighted average for OECD countries, weights based on GDP in 1995 and puchasing power parities.
Sources: OECD and Central Bank of Iceland.

Chart 3

Current account balance in the USA 1960-2004

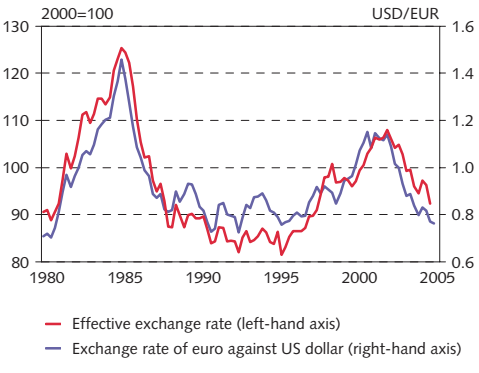


Source: EcoWin.

Chart 4

Exchange rate of the US dollar 1980-2005

Quarterly data Q1/1980 - Q1/2005



Sources: EcoWin and OECD.

Global liquidity is very easy. Owners of this capital have increasingly sought to boost their yields by acquiring corporate bonds and bonds from emerging market economies, which carry a higher risk than their own sovereigns. Premia have fallen as a result. Icelandic businesses and financial institutions have benefited from these conditions on a large scale. When interest rates begin to inch up in major economies, demand for higher-risk bonds is likely to diminish, with a corresponding increase in risk premia. Such a development has sometimes provoked financial instability in countries where growth is driven by cheap foreign credit.[1]

Whether the US deficit and low interest rates will continue depends on the willingness of foreign investors to finance the deficit with purchases of US Treasury bonds and other investments. In recent years, certain Asian central banks have funded a large part of the US trade deficit in an effort to hold their countries' currencies stable against the dollar, a policy that becomes increasingly precarious the longer that the dollar remains weak. Thus it must be considered likely that this policy will eventually be abandoned, whereupon the dollar will weaken against these currencies. This could happen without a corresponding slide against other currencies such as the euro, which have already appreciated firmly against the dollar. It cannot therefore automatically be assumed that the Icelandic economy faces a particular risk from volatility in the foreign exchange markets. However, such a global adjustment could imply an end to low interest rates in the US and elsewhere, which in turn could reduce foreign borrowing and perhaps cause some difficulties in countries where borrowers have been overeager in the faith that interest rates will remain low – for example Iceland.

Favourable external conditions but growing macroeconomic imbalances

The external conditions of the Icelandic economy have been favourable recently. Low foreign interest rates and the economic recovery – albeit slow – in main trading partner countries have already been mentioned. Iceland's fish catch has been fairly good and the sector has achieved considerable growth with improved utilisation of harvests. Export prices have firmed up after last summer's trough and have been rising rapidly in recent months.

Since favourable external conditions represent an opportunity for businesses, households and financial institutions to consolidate their finances, they should contribute to stability, at least in the short run. The employment situation in Iceland is strong and improving further. Real disposable income has been growing steadily. Both these factors give households the chance to bolster their finances. Businesses have also been well placed for consolidating their positions. They appear to have generated sizeable profits last year, even though the high real exchange rate is now squeezing some sectors. On the whole, it can be concluded that the macroeconomic fundamentals for financial stability are good in the short term.

1. The financial crisis in Mexico that began in 1994-1995 is one example.

Box 1

Rating agencies' comments on the banking system

Comments on the banking system
The following is a summary of comments made by Moody's, Standard & Poor's and Fitch Ratings on the Icelandic banking system. It should be noted that Standard & Poor's and Fitch do not make specific assessments of the Icelandic financial markets; most of their comments are found in their ratings reports for the Republic of Iceland.

Moody's
In December 2004, Moody's published a Banking System Outlook for Iceland. It includes a summary of the main strengths and weaknesses of the financial system. In Moody's view, the main strengths are:

- Strong likelihood of state support in the event of systemic shock
- Generally good financial fundamentals including diversified earnings and cost containment
- International expansion is starting to have a positive effect on the profit and loss accounts
- Good progress on enhancing risk management
- Adequate capitalisation

Moody's identifies the main weaknesses as:

- Fierce domestic competition has led to margin pressure
- Exchange rate risk remains a key challenge
- Efficiency ratios, albeit improving, continue to lag behind those of European peers somewhat
- Large exposures higher than those of similar Nordic banks, but well within regulatory requirements
- Commercial banks' funding profiles are heavily reliant on market funding and interbank markets

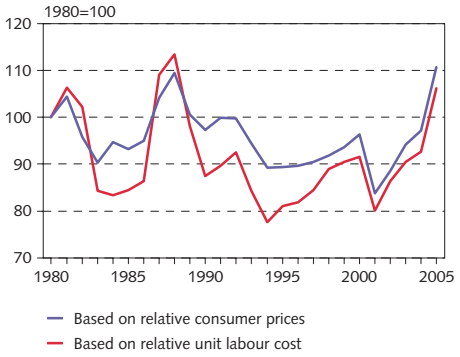
Standard & Poor's
In a research update in February 2005, when the Republic of Iceland's rating was upgraded, Standard & Poor's said that "the upgrade reflects significant and sustained improvements in the resilience and structure of the Icelandic banking sector … The financial sector in Iceland has recovered from the imbalances created by the pre-2001 lending boom. Improved regulation and supervision, as well as the expansion of operations within the Scandinavian region and beyond, leave the sector much more resilient and less sensitive to developments in the Icelandic economy, as well as providing easier access to funds. The recent entry of the commercial banks into the Icelandic mortgage market provides the private financial sector with additional domestic stability and profitability." However, "levels of net debt are considered very high throughout the economy and continue to rise."

Fitch Ratings
In a press release in May 2004 announcing that the Republic of Iceland's ratings had been affirmed, Fitch said Iceland had "engineered a remarkable soft landing in 2001-02 following a period of overheating and a credit boom." However, Fitch saw some signs of strain. The banks' heavy external borrowing had "fuelled a boom in private sector credit and asset prices, especially equity prices. Asset prices and private sector credit have been growing above their trend, and there has been some real appreciation of the króna. These elements, when appearing together, may signal pressures and an increasing risk of reversal that might in turn put the banking sector under stress."

Chart 5

Real exchange rate of the króna 1980-2005[1]

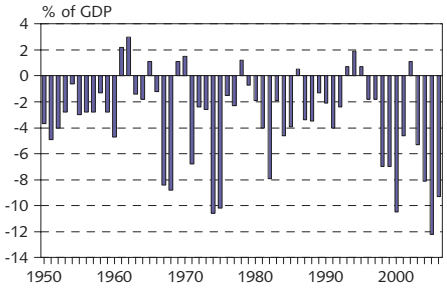
Annual data



1. Forecast for 2005.
Source: Central Bank of Iceland.

Chart 6

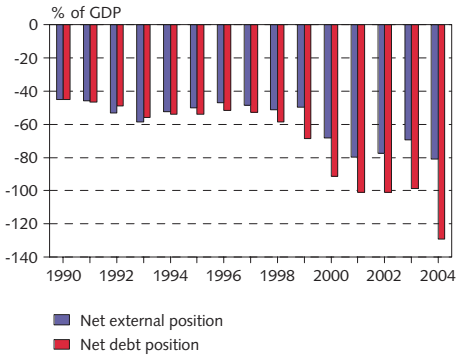
Current account balance in Iceland 1950-2006[1]



1. Forecast for 2005-2006.
Source: Central Bank of Iceland.

Chart 7

Net external position and net debt position 1990-2004



Source: Central Bank of Iceland.

On the other hand, the boom may entail an incentive for greater risk-taking, especially when favourable external financial conditions go hand in hand with a surge in domestic demand. Macroeconomic pressures have unquestionably been mounting over the past year. They have also increased considerably since the Central Bank's last Financial Stability Report in September 2004. Inflation has been on the rise and the twelve-month increase in the CPI measured 4.3% at the beginning of April. Higher inflation is largely driven by soaring housing prices, which is one of the clearest indicators of mounting pressures and macroeconomic imbalances. According to the inflation report published by the Central Bank in March, inflation will approach the 2½% target later this year.

Macroeconomic imbalances are reflected in the widening current account deficit. The deficit was equivalent to 8% of GDP last year and the outlook is that it will reach 12% in 2005. If it materialises, this will be not only the largest current account deficit in Icelandic post-war history, but also one of the largest among the developed countries over the past three decades. A smaller deficit is expected as early as next year. Although part of the deficit is explained by investment that will generate future export income, the bulk of it originates elsewhere. Thus the deficit seems to be clearly unsustainable and will require a considerable adjustment in the economy later. In almost all instances such a large deficit – in Iceland or abroad – has had strong repercussions in the form of either a substantial depreciation of the local currency or a contraction in output, or both.

Net external debt rose sharply last year ...

The risk of prolonged difficulties after an adjustment is more pronounced because of Iceland's high level of national debt. Iceland has ranked among the most indebted developed nations for a long while. Both gross and net debt have increased even further over the past year. At the end of 2004 the net external position was negative by 694 b.kr., or 85.4% of GDP, after deteriorating by 141 b.kr. over the year. The net debt position deteriorated by even more, 266 b.kr. The difference arises because direct foreign and portfolio investment by residents is included in the net external position but not in the net debt position. Foreign direct investment by residents has largely been financed with foreign borrowing. It should be borne in mind that the exceptionally large errors and omissions item in last year's balance of payments could indicate either an overestimation of debt or underestimation of assets.[2] The net debt position does not tell the whole story about Iceland's foreign exchange risk. Insofar as the debtors and owners of assets are not the same entities, the foreign exchange risk may actually be greater. Liquidity of foreign assets is also a factor.

2. According to preliminary balance of payments statistics, the item *Errors and omissions* was negative by 77.8 b.kr. in 2004. This entails that the allocation of a capital inflow equivalent to 9% of GDP for the year has still not been explained. From an accounting point of view, errors and omissions should be zero, i.e. if there were no shortcomings in data collection. Never before has the errors and omissions items been so large.

… to more than double that of the next most-indebted OECD country

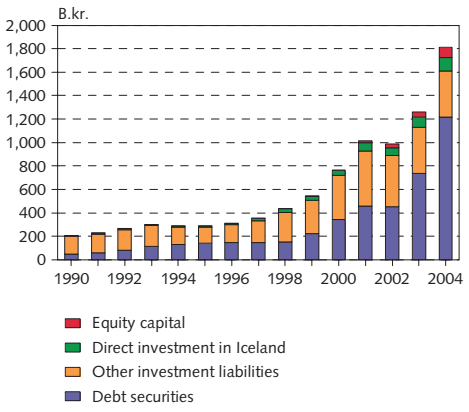
Unlike other countries with a similar level of foreign debt, such as Greece and New Zealand, Iceland's foreign debt is mostly foreign-currency denominated. Foreign investors made sizeable purchases of domestic currency bonds last year, so residents' foreign exchange risk is less than net external debt, which softens the macroeconomic impact of exchange rate changes. However, the risk of a sudden currency outflow might increase if foreign investors lost confidence in the Icelandic króna or their purchases of domestic bonds turned out to be motivated by speculator activity rather than long-term investment.

In a global context it is interesting to compare the net external position and net debt position, i.e. debt excluding venture capital (direct investments and portfolio holdings). This can be a critical factor, as clearly shown by the change that has taken place in Finland's net external position over only a few years. A few years ago Finland's net position was more negative than Iceland's. However, Finland's foreign liabilities were largely in the form of foreign investment in Finnish businesses (mainly Nokia). The slide in equity prices at the turn of the millennium caused foreign claims on Finland to shrink and its net foreign position improved substantially, amounting to only 22% in 2003. Iceland's position is much weaker by international comparison if venture capital is excluded (Chart 9), since foreign investors do not hold large amounts of Icelandic equities.

Although current upbeat external and economic conditions present both businesses and households with the opportunity to consolidate their finances, there could be signs of tougher times ahead, i.e. on a horizon of more than one or two years. In light of the macroeconomic imbalances that are already present and will remain for the next two years, a rather bumpy landing is possible when the economy readjusts. This is one reason that the Central has considered it necessary to make timely rises in interest rates, in order to prevent the need for even more stringent measures later.

Chart 8

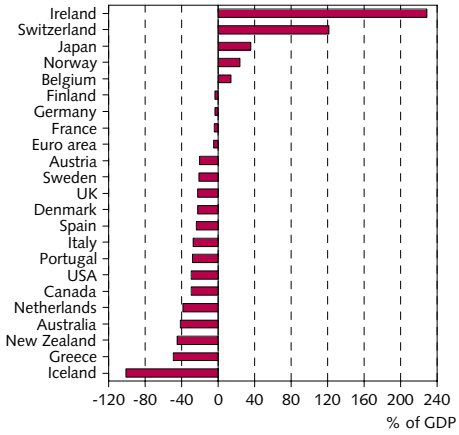
Gross external debt 1990-2004



Source: Central Bank of Iceland.

Chart 9

Net external debt of selected advanced economies at end-2003



Sources: International Monetary Fund and central bank websites.

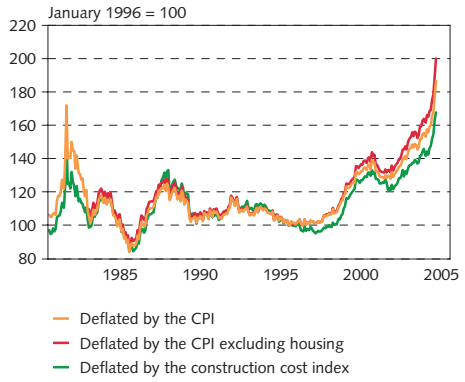
Asset prices

Record high and record rises in residential housing prices in real terms

In recent years the domestic real estate market has experienced an unprecedented boom. According to data from the Land Registry, housing prices in the Greater Reykjavík Area were 149% higher in February this year than at the beginning of 1997 and rose by almost one-third last year. In real terms the increase over the same period amounts to 85% relative to the CPI, 99% relative to the CPI excluding housing and 73% relative to the construction cost index. Housing prices are at a historical high in real terms, up by 77.5% from the previous peak in 1989.

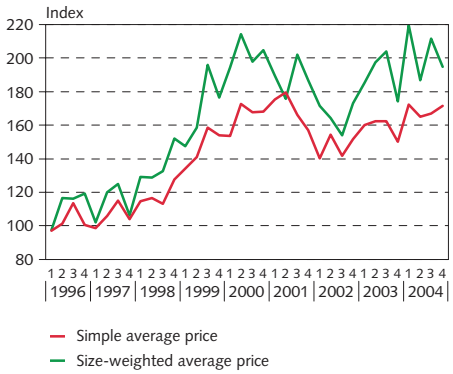
The housing market has clearly been overstretched in recent months and indications of speculator activity have even been noticed.

Chart 10
Price in real terms of detached residential housing in the Greater Reykjavík Area
January 1981 - February 2005



Sources: Land Registry of Iceland, Statistics Iceland and Central Bank of Iceland.

Chart 11
Price of business premises in the Greater Reykjavík Area, in real terms[1]
Q1/1996 - Q4/2004



1. Deflated by the CPI.
Source: Central Bank of Iceland.

Current housing prices in the Greater Reykjavík Area appear unlikely to be sustainable in the long term, although prices are quite likely to rise somewhat further before peaking.

While the situation in the Icelandic real estate market is certainly founded on economic fundamentals, the same is often true of the initial phase of real estate bubbles. The catalyst is a massive increase in credit supply and lower interest rates at the same time as real wages rise and job security improves. Near-record investment in residential housing has not sufficed to satisfy demand. The gap between construction costs and market price of housing has therefore widened. Part of this premium accrues to construction contractors and part to landowners in the form of higher prices for plots of building land, while property speculators could also capture some of the rent that is formed. Such conditions offer a strong incentive to increase the supply of building plots and develop them. Part of the price rise may be permanent on account of increased demand for housing close to Reykjavík city centre, reflecting both changes in family structure and the current lower cost of financing the premium on downtown housing. However, these changes are unlikely to explain more than a small part of the surge in housing prices, which have also soared in the suburbs. Supply has already responded to the growth in demand and there is no apparent reason to expect a shortage of building land to restrain it in the long run. Thus part of the increase in housing prices in recent years can be expected to unwind later.

Table 1 Property price rices in the Greater Reykjavik Area since the low of 1995-1997, in real terms

%	*2004*	*Last 3 months*[1]
Residential housing		
Detached	63	93
Condominiums	54	73
Business premises		
Simple average price	66	69
Size-weighted average price	92	81

1. Q4/2004 for business premises and December 2004 to February 2005 for residential housing.
Sources: The Land Registry of Iceland, Central Bank of Iceland.

Prices of business premises are also at a prime. In 2004 they increased by almost 10% more than consumer prices year-on-year, and by rather more over the year.[3] In real terms, prices in Q4/2004 were broadly the same as at the peak in 2000-2001, and 70-100% higher than at the bottom of the contraction in 1995-97. Thus the increase since the trough in 1995-97 is broadly in line with residential housing prices, based on data for the last three months. Given the accumulated increase, businesses premises cannot be expected to

3. These figures need to be qualified by the low number of measurements taken (180-300 per year) and diverse character of sold properties. Such a problem is far less pronounced in residential housing statistics.

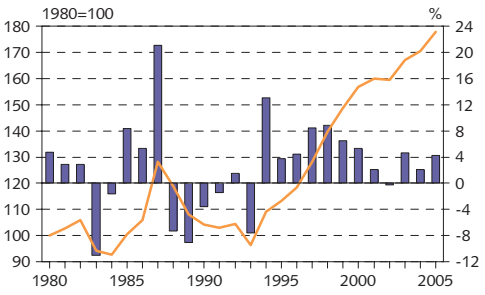
pose any less risk of loan losses than residential housing. Corporate expenditure may be less adjustable than that of households, limiting businesses' ability to adjust to shocks and withstand a downturn in property markets.

Equity prices do not appear abnormally high by conventional measures, but there are still grounds for caution about a possible fall

Evaluating whether equity prices are unsustainably high in the long run is in many respects more complex than evaluating housing prices. Equity values are determined by a company's expected future stream of profit. Such profit expectations are by nature highly uncertain. Using conventional measures, equity prices in Iceland do not appear to have risen so high that a major risk of a slide can be inferred. After a dip in the autumn, the ICEX-15 index reached a new high when it exceeded 4,000 points this April. Prices have risen exponentially in the space of a few years. In its own right, such a sharp rise over a short time arouses suspicions that equities may be overpriced and a downturn is in the offing. Nonetheless, the average P/E ratio[4] of non-financial companies has been decreasing in recent years. Before the turn of the century it was at or above a value of 20, but at the end of 2004 it was around 16. Equity prices have therefore done nothing more than keep pace with profit growth. So far this year, equity prices have risen quite briskly, however. The P/E ratio of non-financial companies is broadly the same in many other countries. It is 16.8 in Sweden, 14.0 in Norway, 18.7 in Denmark, 12.0 in Germany, 14.6 in the UK and 18.9 in the US. However, it should not be forgotten that P/E ratios are calculated on the basis of past profits, while in effect it is future profit that determines the value of shares. The price-to-book ratio,[5] which is often used as an indicator of intrinsic value, is fairly high in a historical context. The price-to-book ratio for Icelandic non-financial companies as a whole was around 2.5 at the end of 2004. Whether these measures provide an accurate picture of equity pricing depends on how accurate a picture of the company's long-term profit outlook is given by the past year's profit. If the profit is generated by short-lived factors, such ratios may be misleading. Where there is a considerable degree of cross-ownership, companies' profit may reflect a rise in equity prices in other companies that they own. The consequence may be price formation which is not necessarily connected with the underlying operation. This is more the case with holding companies and financial companies. For these reasons, the risk represented by financial companies' equity portfolios needs to be assessed carefully, even though conventional measures do not indicate that a risk of a price fall is present.

4. The P/E (profits to earnings) ratio is the price per share divided by the earnings per share.
5. The price-to-book ratio is the market value of the company, divided by equity.

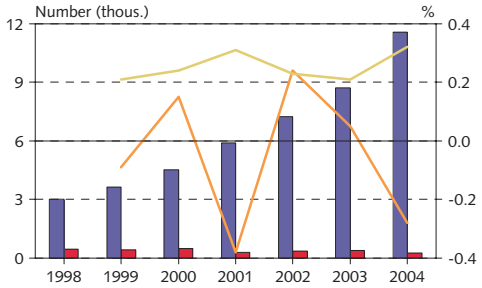
Chart 12
Real disposable income per capita 1980-2005



Real disposable income per capita (left-hand axis)
Real disposable income per capita, change on previous year (right-hand axis)

Source: Central Bank of Iceland.

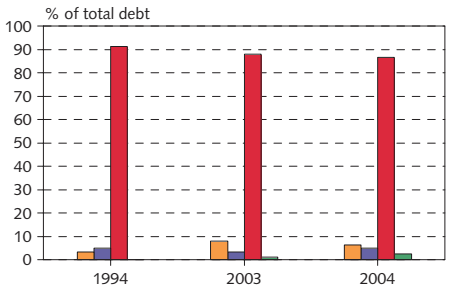
Chart 13
Unsuccessful distraint actions and bankruptcies of households 1998-2004



Unsuccessful distraint actions (left-hand axis)
Bankruptcies (left-hand axis)
Unsuccessful distraint actions, increase between years (right-hand axis)
Bankruptcies, increase between years (right-hand axis)

Source: Central Bank of Iceland.

Chart 14
Composition of household debt in 1994, 2003 and 2004



Overdrafts
Other non-indexed loans
Indexed loans
Exchange rate-linked loans

Source: Central Bank of Iceland.

Households and businesses

Short-term improvement in the position of households ...

In most respects households are in an optimum position at present. Unemployment is low and falling, real disposable income is steadily growing, financial conditions are at their most favourable for decades and access to capital is easier than ever before. In recent months many households have made efforts to ease their debt service by refinancing outstanding loans that were on less favourable terms. Refinancing generally involves both extended repayment periods and lower interest rates. Households therefore definitely seem to have strengthened their position in the short term. The reduction in bankruptcy rulings last year confirms this picture, although a continued rise in the number of unsuccessful distraint actions could suggest the opposite.[6]

... but mounting debt and high asset prices may imply a long-term risk

Although the short-term risk to households' financial positions has probably diminished, the picture may be different several years ahead. Households have also increased their total indebtedness apace. In 2004, household debt with the credit system increased by 107 b.kr. and at the end of the year was equivalent to 192% of households' disposable income. Thus their debt service burden cannot be expected to have decreased in step with the lengthening of loan maturities and reduction in interest rates – instead, many households have used the opportunity for significantly higher leverage than was previously available to them. Households have also apparently not used easier mortgage loans as much as was expected to pay off high-term overdrafts on which interest rates have risen significantly in line with the Central Bank's policy rate. However, there has been some decline in the use of overdrafts since 2002, especially in proportional terms.

If household debt continues to rise as rapidly as in recent months, the debt service burden will soon return to its former level. In such a case, household finances would in effect be worse than before, insofar as they would have less scope for cutting debt service by lengthening the repayment periods for their loans. It should be pointed out, however, that the new mortgage loans give households which previously had no option but rented accommodation the opportunity to acquire their own housing. For them, the rent burden decreases to offset the greater debt service.

Another factor that has weakened the long-term financial position of households is high and rising housing prices. After the banks began offering mortgages that are competitive with loans from

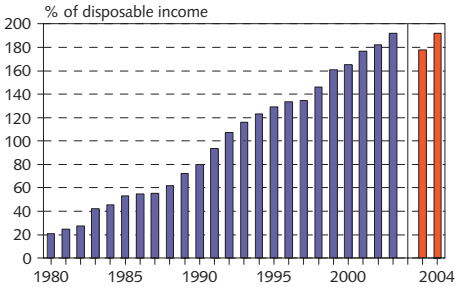
6. Since the amounts involved in unsuccessful distraint actions are unknown, it is difficult to interpret what underlies this increase. Conceivably it is mainly the result of a change in collection methods for small debts owed to businesses with a predominantly youthful customer base, such as video rentals and telephone companies.

the Housing Finance Fund (HFF), the mortgage value of households' properties also increased. Longer loans and higher loan-to-value ratios imply a greater risk of negative mortgage equity. Nonetheless, higher mortgage levels are probably confined to a small minority of properties. For most homeowners, higher housing prices entail a relative decrease in their loan-to-value ratio. The slow rate of amortisation in many cases could result in long periods during which mortgage equity is negative. As pointed out in previous Central Bank publications, there is a substantial difference in risk between a loan-to-value ratio of 80% more than 90% of market value.[7] This risk is greater, the higher the value of the property.

Relative to construction cost, housing prices are currently higher than ever before. Some of this housing is virtually 100% mortgaged. It can be concluded that there is now more risk of long-term financial instability being prompted by a deterioration in household finances. Even though households are likely to honour their obligations if the value of their housing temporarily dips below the value of loans secured against it, a sharp contraction in private consumption and construction activity could result. This would be most likely to occur when the financial position of households is sensitive in other respects: under conditions of unemployment, eroded purchasing power and high interest rates. It is difficult to estimate the probability that such a situation might arise, but it could be connected, for example, with external shocks during a period of macroeconomic adjustment. On the basis of historical experience the likelihood of such a scenario is not insignificant, even though economic policies are now more sound than in the past.

Chart 15

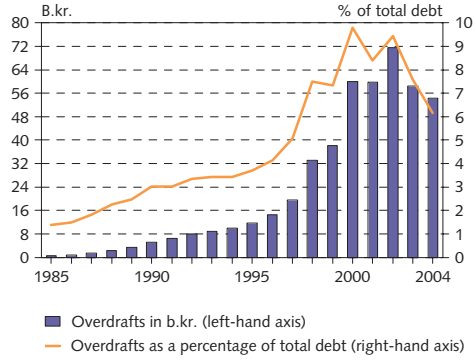
Household debt 1980-2004[1]



1. New classification of lending from 2003. Two columns are shown for 2003.
Source: Central Bank of Iceland.

Chart 16

Household overdrafts 1985-2004



Source: Central Bank of Iceland.

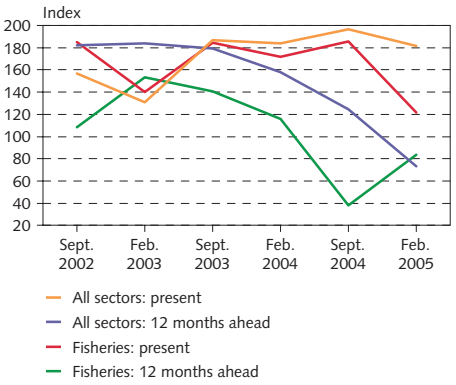
Households' assets have grown by more than their debt over the past year, due to rising asset prices

Household balance sheets have swollen in recent years on both the asset and liability side. Soaring asset prices have probably caused assets to increase by more, however, with a corresponding reduction in the household debt-to-equity ratio in recent years. It is interesting to examine how household balance sheets (based on the position at the end of 2004) could be altered by upheavals for which there are historical precedents. A 20% drop in asset prices, for example, would entail that the debt-equity ratio would be higher than before, instead of having gone down since the peak in 2001. It is not unlikely that debt has become more unevenly distributed after mortgage ceilings were raised. In other words, a relatively small group of households has taken on heavy levels of debt while the debt-to-asset ratio has improved for most households. A substantial drop in asset prices is most likely when real disposable income shrinks, which has happened quite frequently over the past two decades (see Chart 12). A 10% contraction in disposable income, for example, could push up debt service by the equivalent of 2% of disposable income on average, and by much more for heavily indebted households, without even

7. This is discussed in Box 2 on pp. 40-41 of *Monetary Bulletin* 2004/3.

Chart 17

Business sentiment surveys
September 2002 - February 2005



Source: IMG Gallup.

taking into account the possibility of a sharp rise in short-term interest rates at the same time. The interaction of asset prices, disposable income and debt service during a contraction is the main weakness in the financial position of households that could lead to losses for credit institutions.

The position of businesses is generally strong, but the strong króna may squeeze the export sector

The financial position of companies appears to have been generally strong in 2004. This conclusion is supported by a reduction in corporate debt delinquency during the year, and by profitability of companies listed on Iceland Stock Exchange (ICEX). However, the sharp reduction in the number of listed companies in recent years means that they do not reflect the position of the corporate sector as a whole as closely as before.

A Gallup business sentiment survey conducted in February on behalf of the Central Bank and Ministry of Finance shows that, on the whole, management of the 400 largest private sector companies in Iceland consider their position to be good, which is interesting in light of the sharp appreciation of the króna since the previous survey. On a longer horizon, the outlook is not as upbeat as before. Part of the explanation may be that a good position is difficult to improve further, but it also seems certain that the outlook is for growing problems in sectors that are affected by the strong króna. For example, fisheries sector sentiment is more downbeat than in earlier surveys. The strength of the króna adds to operating uncertainties, both for businesses that are squeezed by the high real rate of exchange and for others that could suffer setbacks when the króna weakens again – conceivably by more than is implied by an adjustment to long-term equilibrium. The probability of an undershoot increases after a substantial overshoot.

Table 2 Business profitability by sector 2003-2004

	EBITDA		*Profit*	
% of turnover	*2003*	*2004*	*2003*	*2004*
Fisheries	21.3	18.1	8.7	11.3
Manufacturing	16.3	18.1	8.5	11.2
Marine production and export	3.1	1.5	0.6	0.3
Transport	7.0	10.7	2.3	4.1
ITC	17.6	20.2	3.6	8.9
Other	24.2	21.3	4.7	7.2
Total	12.1	11.9	4.3	6.4

Source: Central Bank of Iceland.

Financial conditions of businesses still quite favourable in spite of strong króna

The strong króna also affects the financial conditions of businesses. Corporate financial conditions have been favourable in recent years, with interest rates on foreign borrowing at a historical low, both short-term rates and sovereign rates that form the base for pricing of corporate bond issues. Corporate spreads went down at the same

time. Recently, however, indications have emerged that a change may be in the offing (see p. 20). Interest rates and premia have risen again. The strong exchange rate of the króna – which makes a subsequent depreciation all the more likely – also leaves foreign borrowing less favourable, at least for businesses with no income in foreign currencies. In this respect the financial conditions of businesses are unquestionably weaker since the last Financial Stability report in September last year. On the other hand, there are also indications that credit institutions have eased their indexed lending terms for businesses, although the change is hardly as marked as for households. The banks' prime rates appear to have shifted towards lower average corporate spreads. Equity prices have been favourable for the few companies that are able to issue share capital in the open market and a number of fruitful offerings have been made. Listed non-financial companies raised 46 b.kr. through equity offerings.[8] On the whole, the financial conditions of businesses are therefore fairly good, in spite of the appreciation of the króna and higher interest rates on non-indexed domestic debt.

Macroeconomic imbalances make certain sectors more prone to shocks

Although the position of businesses still appears fairly solid, there are various indications of an increase in the probability of shocks that could have a negative effect on corporate balance sheets. Growing signs of overheating, e.g. rising inflation and a current account deficit and real exchange rate approaching former peaks, increase the likelihood of difficulties among various companies in connection with exchange-rate and interest-rate volatility. There is reason to keep a close watch in the near future on several sectors where both short-term and long-term problems are most likely to arise.

The construction sector is prone to cyclical swings. High housing prices offer a strong incentive to construct residential housing – at the same time as other building activity is brisk. Supply of new housing is inelastic and a sizeable lag can occur between demand growth and the appearance of a sufficient volume of new housing in the market to meet it. This can cause price volatility, with a risk of oversupply in the housing market. Fluctuations also reflect the fact that housing purchases are largely financed with borrowed funds, and may be sensitive to changes in interest rates. If household finances suffer shocks or interest rates go up, and especially if these coincide, the construction industry can experience a prolonged contraction.

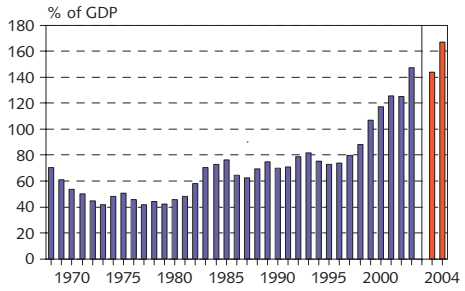
Heavy investment has been made in the tourism sector in recent years. Tourism is fairly sensitive to a high real exchange rate. If the króna remains strong for a sustained period, foreign demand for Icelandic tourist services could shrink. The sector's indebtedness after large-scale investments leaves it less able to weather such a downturn.

Various companies in the service sector which have borrowed heavily abroad, without having natural hedges in the form of

8. The commercial banks' and investment banks' equity offerings were far larger, at 121 b.kr.

Chart 18

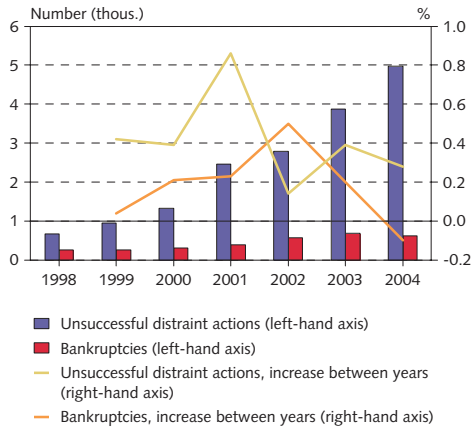
Corporate debt 1968-2004[1]



1. New classification of lending from 2003. Two columns are shown for 2003.
Source: Central Bank of Iceland.

Chart 19

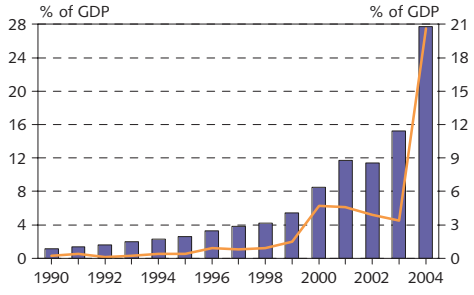
Unsuccessful distraint actions and bankruptcies of businesses 1998-2004



Source: Central Bank of Iceland.

Chart 20

Foreign direct investment 1990-2004



Source: Central Bank of Iceland.

substantial foreign currency income, could suffer shocks if the króna slides some way below its long-term equilibrium when the current high exchange-rate episode comes to an end.

There is also reason to keep a close watch on marine processing companies. Substantial productivity gains in various segments of marine production have reduced the use of domestic factors of production and, as a result, decreased these companies' exposure to exchange rate fluctuations. Product prices have risen as well. However, productivity gains have not been equally rapid in all parts of the sector and processors who need to buy fish at auction markets do not necessarily benefit from higher product prices to the same extent as those who also have fishing operations.[9] That said, market analysts are forecasting reasonable profits for listed fisheries companies this year.

Record corporate debt growth in 2004

Corporate debt has increased in Iceland virtually every year for the past quarter of a century. At the end of 2004, resident companies' debts with the credit system amounted to 1,469 b.kr., equivalent to 167% of GDP. Debt therefore grew by the equivalent of 23% of GDP in the space of a year – its fastest pace ever, although the growth rate in 2003 was little less. Such rapid growth of debt is a sign of risk, almost irrespective of the underlying reasons. The proportion of debt carrying an exchange rate risk has remained fairly constant in recent years, but the fast rate of growth in total debt has probably heightened this risk. However, it should be noted that a considerable share of corporate debt with the credit system is accounted for by holding companies making foreign currency-denominated leveraged investments in foreign companies or assets. Data on these holding companies' debts and assets, on the other hand, are insufficient to allow a firm estimate of the extent to which exchange rate exposure due to foreign debt is hedged by foreign assets. In this context it should be reiterated that last year's unprecedentedly large errors and omissions item in the balance of payments, at the equivalent of 9% of GDP, suggests that either the rise in debt has been overestimated or asset growth underestimated.

Massive growth in foreign investment – more risk or less?

Foreign direct investment by residents set a record in 2004. The stock of outward direct investment last year amounted to more than one-quarter of GDP. At the end of 2003 it was equivalent to just over 15% of GDP, and a decade ago it was negligible. In the space of a few years, the Icelandic economy has undergone a fundamental structural change.

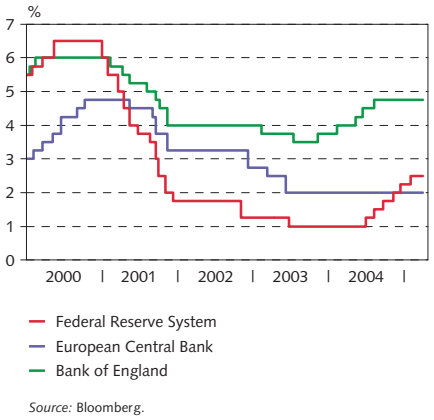
It is interesting to consider whether overseas expansion by Icelandic companies is likely to reduce their operating risk, or increase it. Generally speaking, diversification of operations to regions outside

9. The Gallup confidence survey revealed that roughly one-third of fisheries companies considered conditions bad or fairly bad, and six months ahead roughly one out of four foresaw a poorer outlook than at present.

the volatile domestic market can be expected to have a stabilising effect. On the other hand, the rapid overseas expansion of many Icelandic companies in recent years implies a considerable degree of risk. Foreign investment has largely been financed with foreign borrowing, but to some extent with share capital issues. Residents who have bought equity in offerings by these companies have probably financed their acquisitions with foreign-currency denominated loans as well. It is clear that the robust growth in international activities depends heavily on foreign interest rates remaining low. If interest rates and premia begin to head upwards and undermine the assumptions on which these investments have been made, this may have a detrimental effect on other Icelandic residents' access to capital. Adequate data are not at hand to assess the extent of the risks faced by these companies.

Chart 21

Policy interest rates of selected central banks
January 3, 2000 - March 30, 2005



Source: Bloomberg.

International finance markets

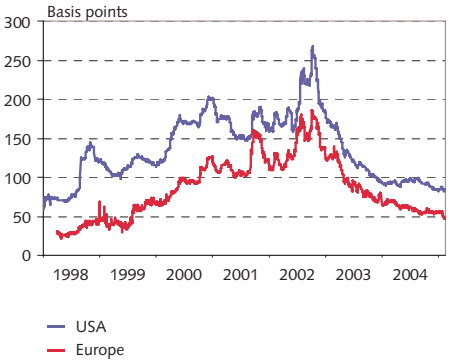
Surplus liquidity in international credit markets

Conditions for borrowing in international markets have been exceptionally favourable in recent times. Credit supply has been fairly strong in historical terms. Low interest rates have prompted investors to seek greater returns with increasing investments that carry higher risks with respect to both the credit ratings of debtors and extended loan maturities. Since this development in the financial markets has brought down risk-weighted premia, in one sense the risk to the financial system can be expected to have increased.

There are several interrelated explanations for the current strong credit supply. Low central bank rates in the US, Europe and elsewhere have resulted in a glut of liquidity. The European Central Bank (ECB), for example, has kept its rates at a historical low and negative in real terms, although most other central banks have begun raising their policy interest rates. Hikes have begun slowly and are unlikely to affect liquidity supply, at least in the short run, since the monetary stance is still lax and, in fact, accommodative.

Chart 22

High-grade corporate bond spreads in Europe and USA January 2, 1998 - February 16, 2005



Source: Merrill Lynch (*Global Financial Stability Report*).

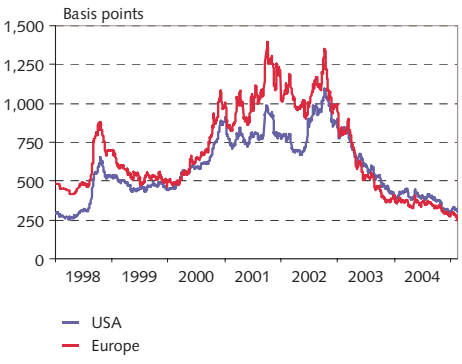
... and corporate spreads have narrowed

The rise in short-term interest rates has still not been transmitted to long-term rates to any great extent. Besides the strong liquidity supply explained above, a number of other factors are holding back long-term interest rates. Many emerging market countries, especially in Asia, now have a current account surplus and many central banks in that region have bought large volumes of US Treasury bonds in an effort to keep their currencies stable against the US dollar. They have thereby funded much of the US current account deficit and held down long-term interest rates. Pension funds have also added to their long-term portfolios to improve the balance between their assets and debts.

Growing numbers of investors have put funds into bonds issued by corporations and emerging market countries which do not have top-grade credit ratings. These debtors' premia have dropped sharply

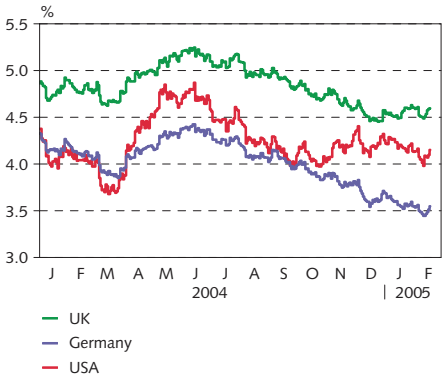
Chart 23

High-yield corporate bond spreads in Europe and USA January 2, 1998 - February 16, 2005



Source: Merrill Lynch.

Chart 24
Yield on 10-year government bonds
in the UK, Germany and USA
January 2, 2004 - February 16, 2005



Source: Bloomberg.

as a result, to the lowest levels since 1996-97. Improved business profitability has also served to bring down interest rate premia. Their quality as debtors has therefore increased at the same time as improved profitability has cut their borrowing requirement – business investment in many advanced countries is still quite weak relative to profitability. In the recent international market climate, investors have been increasingly pressed to reap profits from risk-taking. Another side-effect of strong liquidity supply is that provisions in loan agreements have apparently been softened.

No changes in sight, but many uncertainties present

With an economic recovery underway and corporate profits on the increase, the international financial system seems to be sound. There are few signs that major changes can be expected in the near future. Liquidity supply is likely to remain stable this year. However, a number of long-term risks linked to possible global economic imbalances should be borne in mind. These include financing of the United States' twin budget and current account deficits, the growth outlook in Europe, the inflationary impact of possible further rises in oil and asset prices, and higher interest rates. A relatively minor incident might catalyse a process that could have serious consequences. The general market sentiment appears to be that premia are too low, i.e. that the borrower risk is underpriced. Corporate spreads are therefore likely to increase in the not so distant future.

Domestic markets

Important role of Iceland Stock Exchange, but thinness is a drawback

Iceland Stock Exchange (ICEX) is one of the mainstays of the domestic financial system. Although its profile and scope have grown enormously in recent years, a number of factors restrict its effectiveness, such as the small size of the Icelandic market, the small number of agents dominating the market, and the density of trading in a handful of classes with a thin market elsewhere. This is nothing unusual in comparison with similar exchanges in other countries, but is undeniably a weakness in terms of the financial stability of the markets.

Equity trading volume varies – for example, shares in 7 companies accounted for 71% of total equity trading volume in 2004. For other shares the turnover rate and price formation are correspondingly small, which impairs the market's credibility. Shares in 32 companies are currently listed, compared with a high of 64 in 2000. It is obvious that the reduction in listed equities in recent years has eroded companies' interest in tapping the market.

The overwhelming majority of bond classes are fairly inactive, although issuers undertake an obligation to provide information which is useful for the market. A common feature of the classes that sustain turnover in the bond market is that they all carry Treasury guarantees, and trading has been particularly heavy in Housing Financing Fund benchmarks. In 2004, 78% of bond transactions were

Box 2

Iceland Stock Exchange and the Icelandic Securities Depository

Iceland Stock Exchange (ICEX) operates under legislation[1] which is consistent with the legislative framework in the European Economic Area. In spite of its relatively short history – since 1985 – ICEX has succeeded in establishing itself firmly in the markets. ICEX is a regulated public market for equities and bonds, but a derivatives market is not operated under its auspices. The owners of ICEX are listed in Table 1.

Table 1 Ownership of Iceland Stock Exchange at end-2004[1]

	% of equity
ICEX members/Financial undertakings	37.7
Listed companies	24.5
Pension funds	13.4
Central Bank of Iceland	11.0
Association of Small Investors	9.0
Faroese Stock Exchange	4.4

1. i.e. of Eignarhaldsfélagið Verðbréfaþing hf., the Iceland Stock Exchange holding company.

Source: Iceland Stock Exchange (ICEX).

Shares in 34 companies were listed on ICEX at the end of 2004 with a market value of 1,084 b.kr. A large number of bond classes are also listed with an estimated market value of 953 b.kr. Turnover has been growing briskly ever since ICEX was established and the market value of listed securities has soared, despite a number of delistings in recent years.

ICEX is a member of NOREX, the alliance of stock exchanges in the Nordic and Baltic countries. Cooperation in NOREX entails access to a sophisticated trading and information system with a harmonised regulatory framework, and offers members the opportunity to trade in more than one exchange in the region. Non-residents' access to Icelandic bond settlements through Euroclear and Clearstream has also strengthened ICEX.

The Icelandic Securities Depository (ISD) operates under Act No. 131/1997 on Electronic Registration of Title to Securities and began electronic registration in June 2000. The ISD is a registry and depository for securities in dematerialised form and serves as a clearing house for most trades made on ICEX. It is also linked to Euroclear and Clearstream. The ISD has established itself as a reliable institution within the financial system and has achieved highly economical operation, in part through synergies from sharing certain office services with ICEX.

1. Act No. 34/1998 on Activities of Stock Exchanges and Regulated OTC Markets.

Table 3 Turnover in main classes of securities on ICEX in 2004 and market value at the end of the year

B.kr.	*Turnover*	*Market value*
Bank bills	43.1	13.1
Equities	721.4	1.083.7
HFF	968.9	503.8
Stock Exchange funds	0.0	1.0
T-bonds	269.1	55.3
T-bills	84.5	14.4
Government savings bonds	107.7	46.4
Mutual funds	0.0	215.0
Other long-term bonds	22.8	320.2
Total	2,217.5	2,253.1

Source: Iceland Stock Exchange (ICEX).

concentrated in the 10 most traded classes. Table 3 shows turnover in 2004 and market value of the main groups of issuers.

Due to the small size of the market, it is conceivable that a few agents could establish large enough market shares to control price formation of securities. There are 20 members of ICEX, including two non-residents, and their number has remained fairly steady in recent years. The large commercial banks are the most active traders with a market share of 82% of total equity trading and 79% of total bond trading. The limited number of members reduces the options available to investors and hampers competition. Conceivably, a reduction in membership could weaken the market and disrupt normal price formation.

Several very large equity offerings were made in 2004 which demonstrate the domestic market's ability to mediate high volumes of capital. Listed companies raised a total of 170 b.kr. with new share capital issues in 2004, which is 16% of the market value of all listed companies.

Market price formation could be handicapped by a significant decrease in the number of issuers. A sharp contraction in turnover could also possibly cause operating difficulties for ICEX, since part of its income is turnover-related, but its expenses much less so. Nonetheless, it is unlikely that the exchange's financial strength would come under much strain, since most of its owners are financially sound and likely to provide solid support.

ICEX has created an awareness of the importance of providing information and transparency, and has highlighted issues such as equitability of investors and countering of abnormal market practices or abuses. ICEX's surveillance of the provision of information and its cooperation with the Financial Supervisory Authority (FME) have also boosted confidence in the market.

Good results from the Securities Depository

One of the main reasons for establishing the Icelandic Securities Depository (ISD) was to achieve economies in handling of securities transactions and enhance the security of clearing, settlement and depository services. The economies from registration of dematerі-

Box 3

Interbank markets

The interbank foreign exchange market is operated by the Central Bank of Iceland in accordance with Rules that the Bank has set.[1] Market agents make regular bids for buying and selling US dollars. Transactions are settled two days later with transfers through current accounts with the Central Bank of Iceland and the foreign correspondent bank of the transacting parties. There are three market makers in the FX market but the Central Bank may also participate in trading at its discretion. Trading in the Icelandic FX market is brisk with a volume of 948 b.kr. in 2004, in connection with both merchandise and service transactions but probably mostly related to financial transactions.

The interbank market for loans in domestic currency (króna market) is also operated by the Central Bank of Iceland in accordance with Rules that the Bank has set.[2] Members can bid or ask for unsecured loans in domestic currency. At regular intervals, market agents present indicative bids for trades with a number of standard maturities from one day to one year. Payment is made through current accounts with the Central Bank. There are currently six agents (commercial banks and savings banks) in this market. The króna market is fairly active with a trading volume of 1,073 b.kr. in 2004, but was for some time hampered by flaws in liquidity intermediation.[3] The market appears to have resolved this problem and is now quite efficient. It is most active at the shortest end. At the end of the Central Bank's maintenance period for minimum reserve requirements (the 20th of each month), interest rates in this market often approach the Central Bank's current account or overnight loan interest rates. Interest rates in the króna market are used widely in the banking system as a benchmark for prime loan rates.

The interbank market for currency swaps is operated by the Central Bank of Iceland in accordance with Rules that the Bank has set.[4] Market agents present regular bids for trades with several standard maturities. The role of the market is to facilitate agents with long positions in one currency to adjust temporary short positions in others. Initially the market was used heavily but trading has been sporadic recently, with turnover of 96 b.kr. in 2004. Nonetheless, it is an important addition to the range of financial instruments on offer. The market also supports interest-rate formation in the króna market, especially at the longer end.

1. Rules No. 913/2002 on the Foreign Exchange Market.
2. Rules No. 177/2000 on Transactions in the Interbank Market for Domestic Currency.
3. Flaws in liquidity intermediation were discussed, for example, in *Monetary Bulletin* 2004/2, pp. 39-40.
4. Rules No. 187/2002 on the Interbank Market for Currency Swaps.

alised securities have resulted in substantially lower costs with high security levels for registration of title and settlement. ISD only settles transactions conducted on ICEX (apart from HFF bonds) but it is planned to extend settlement to cover all transactions, which would be a major step forward. The legal framework has proved sound.

Interbank markets efficient but can be sensitive ...

Turnover has been brisk in two of the three interbank markets, for foreign currency and domestic currency. They have established themselves firmly within the financial system and have operated very efficiently recently, especially the FX market. Turnover has been low in the interbank swap market. A characteristic of these markets is the small number of agents, with only three FX market makers and six in the domestic currency market. Price formation in the FX market is sensitive, as reflected in rapid price changes when the mood of the market invites them. However, the króna is not more volatile than other currencies.

The FX market faced challenges in 2000 and 2001 when the number of market makers decreased from six to three, which proved to be a strong test of the willingness and ability of the remaining agents to keep the market operative. The small number of agents leaves the market fragile and the departure of any one of them could cause an upheaval in its operations. Nonetheless, the benefits to the financial system in keeping the market operative are presumably greater than the alternative of returning to less developed trading practices, for instance daily Central Bank auctions to determine the exchange rate of the króna against major currencies, as was done from 1993 to 1997.

Sharp price fluctuations are natural in an FX market and there is some probability that they could generate sizeable losses (or gains) for market makers and their clients. FX trading is often leveraged and if risk management is inadequate, a chain reaction could amplify the effect.

Foreign and domestic investors alike trust in being able to trade smoothly in an active FX market, in spite of occasional fairly large price changes. The small size of the market and limited number of active agents makes the market sensitive and potentially exposed to strain. Larger loan repayments might need to be made if access to foreign financing unexpectedly became tighter than at present. The Central Bank's involvement in the market has been transparent and on an equitable basis.

The interbank market for domestic currency (króna market) is highly active now and appears to be increasingly used as a benchmark for other credit transactions. It provides important indications of yield curves and short-term expectations. The weakness of the market is the small number of market makers and very occasionally it seems to fall flat. The Central Bank has a direct and indirect influence on the market in various ways, e.g. through the effect that its minimum reserve requirement, lending facilities and deposit terms have on capital flows. Other public sector bodies such as the Treasury and the HFF can have a significant impact on market

liquidity and smooth communication of information about their actions has not always been assured. Flaws in liquidity mediation[10] have impaired the informational value of the market, especially in the short run. As a rule the Central Bank's interest rate corridor determines the floor and ceiling for interest rate formation in the króna market.

The interbank swap market is not very active but supports interest rate formation at the longer end of the króna market.

... and unfavourable interaction of markets could cause problems

A sudden price slump in the markets can have a negative effect on the financial system and its stability. A potential chain reaction scenario with herd behaviour is generally present in the markets and often only a minor incident is needed to cause an undesirable sequence of events. However, this only occurs rarely, and then only if serious internal weaknesses become engrained in the markets or external shocks are felt.

An example of such a scenario would be if a price slump in one market caused investor flight and a price slump in all the others. For example, an unexpected slide in the króna could prompt non-residents to revalue their liquidity positions, which could cause them to liquidate holdings at short notice, for example by selling domestic securities from their portfolios. Securities prices would drop, which in turn would encourage others to sell, putting even more pressure on the securities market and exchange rate. At the same time, unease among residents who had taken foreign loans could amplify exchange rate pressure still further. A fall in securities prices erodes their value as collateral and could prompt credit institutions to demand additional collateral, which could squeeze borrowers and subsequently cause problems for credit institutions.

Non-residents' net purchases of securities issued in Iceland over the past 8 years amount to 65 b.kr. Together with 15 b.kr. of direct deposits by non-residents in the banking system, this is equivalent to 10% of GDP. It is unclear how much foreign portfolio investment is made through intermediaries, e.g. securities purchases by banks which are hedged with exchange rate and interest rate swaps, but a similar amount may be involved.

10. Flaws in liquidity intermediation were discussed, for example, in *Monetary Bulletin* 2004/2, pp. 39-40.

Financial companies

Strong position but grounds for caution

Financial companies enjoyed a very favourable year in 2004. Their return on equity was exceptionally high, their assets swelled, their equity position at the end of the year was the best for a long time and their liquidity position was strong. Total assets of commercial banks doubled due to acquisitions of foreign subsidiaries and lending growth. The point has now been reached where half of the assets of bank groups are held by foreign subsidiaries. Increased foreign assets broaden the banks' income base and leave them less exposed to domestic shocks. By the same token, banks are now more exposed to foreign risks, especially credit risk. Percentage growth in bank credit, including mortgage lending, was well into double digits last year. Increased mortgage lending will consolidate the banks' operating base if moderate loan-to-value ratios are observed and liabilities are appropriately matched to assets. Main indicators suggest that loan quality is high. However, there are grounds for caution, since steep and swift lending growth may later lead to higher loan losses. Equity purchases are increasingly leveraged with borrowed funds, which could be questionable if equity markets turn down again, and the total amount of large exposures has risen. In recent years, the banks' foreign currency-denominated financing has soared. Around 80% of foreign currency-denominated financing is now long-term, which is a marked improvement from the times when banks relied too heavily on short-term borrowing. Hefty foreign currency-denominated financing underlines the importance of credit ratings for banks – high ratings have improved their access to funding. At the end of the year the capital position of the commercial banks and largest savings banks was strong and their liquidity position was easy. Both these factors are important fundamentals for financial stability.

Milestone year in 2004

In many respects the year 2004 marks a milestone in Icelandic banking. Total assets of the commercial banks and largest savings banks[11] almost doubled due to acquisitions of foreign subsidiaries and lending growth. The point has now been reached where half of the assets of the bank groups are held by foreign subsidiaries. Last year also witnessed a turning point in the mortgage market when credit institutions began offering mortgage loans on comparable terms to those available with the Housing Financing Fund (HFF) and on a larger scale than before.

Development of overseas banking operations

Ever since banking began in Iceland, the commercial banks have borrowed abroad for on-lending to domestic customers, but direct participation in foreign banking operations was very limited until very recent years. In 1995 the banks first bought foreign securities and from 1998 onwards they began to lend directly from Iceland to foreign borrowers and provide other financial services such as market trading, underwriting, consultancy and asset management. Devel-

11. The commercial banks and six largest savings banks refer to the four commercial banks – Kaupthing Bank (Kaupþing banki hf.), Íslandsbanki hf., Landsbanki Íslands hf. and Sparisjóðabanki Íslands hf. – and the six largest savings banks (Sparisjóður Reykjavíkur og nágrennis (SPRON), Sparisjóður Hafnarfjarðar, Sparisjóður vélstjóra, Sparisjóðurinn í Keflavík, Sparisjóður Kópavogs and Sparisjóður Mýrasýslu). Figures for the commercial banks and largest savings banks are consolidated unless otherwise stated.

Table 4 Total assets of commercial banks' foreign subsidiaries at end-2004

B.kr.

Íslandsbanki		*Kaupthing Bank*		*Landsbanki Íslands*	
BNbank[1]	403	FIH	745	Landsbanki Luxembourg S.A.	100
Luxembourg branch[2]	45	Kaupthing Luxembourg S.A.	127	Heritable Bank Ltd.	43
Kredittbanken	36	Kaupthing Sverige AB	74		
Other	21	Other	20		
		Kaupthing Bank Oyj	4		
Foreign total	505	Foreign total	968	Foreign total	143
Total assets[3]	1,078	Total assets	1,534	Total assets	730
% of total assets	47	% of total assets	63	% of total assets	20

1. The Norwegian Ministry of Finance first approved Íslandsbanki's acquisition of BNbank on March 16, 2005. 2. Íslandsbanki's Luxembourg branch was converted into a subsidiary with the establishment of ISB Luxembourg S.A. on April 13, 2005. 3. Assets of BNbank are included in Íslandsbanki's total assets.

Source: Central Bank of Iceland.

opment of overseas branches began the same year when Kaupthing established a subsidiary in Luxembourg. Thus the history of expansion outside Iceland and acquisitions of foreign financial companies spans a period of only six years.

Bank groups' assets doubled last year

Last year the assets of Icelandic commercial bank groups doubled. Most of the growth is attributable to acquisitions of subsidiaries, but lending also surged. The largest foreign acquisitions in 2004 and so far this year have been Kaupthing Bank's takeover of FIH in Denmark and Íslandsbanki's acquisition of BNbank and Kredittbanken in Norway. These moves have added almost 1,200 b.kr. to the assets of Iceland bank groups.

Different, more dispersed risks

Overseas expansion by Icelandic commercial banks has a raft of consequences. Icelandic banks have become larger and more international in character. At the same time, the core of their consolidated balance sheets is shifting abroad, even though their headquarters, risk management and liquidity management remain in Iceland. Acquisitions of foreign subsidiaries have broadened the banks' income base, leaving them less exposed to domestic shocks.

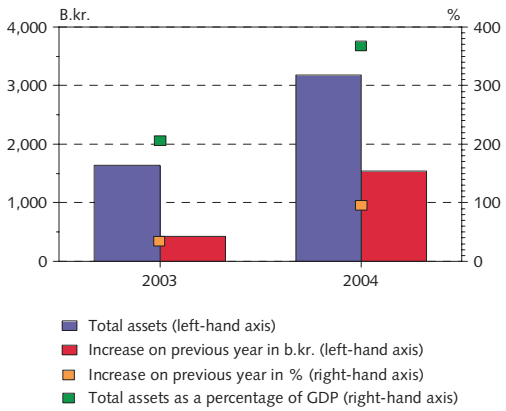
So far the banks and their customers seem to have been successful in their foreign investments but it is still too early to assess the long-term outcome. Banks now face different, more dispersed risks, meaning that financial shocks can appear in more diverse forms than before.

Increased mortgage lending can strengthen the banks

Plans announced last year by the Housing Financing Fund (HFF) to raise its loan-to-value ratio and maximum loan amounts provoked a response from financial companies, which began offering mortgage loans on much easier terms and a larger scale than before. As a result, the banks' mortgage lending to households soared and was partly deployed on prepayment of earlier HFF loans. At the end of March this year the banks had lent some 180 b.kr. in the form of mortgage loans

Chart 25

Total assets of commercial banks and largest savings banks in 2003 and 2004[1]



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

since competition in this field was launched at the end of August. Increased mortgage lending will consolidate the banks' operating base if moderate loan-to-value ratios are observed and liabilities are appropriately matched to assets. In the Central Bank's view, the transfer of mortgage lending to the banking system is beneficial and will strengthen it in the long run. However, the timing of easier mortgage credit, during a phase of robust demand driven by other factors, is inappropriate. Given the way that events have unfolded, the Central Bank considers there is a need to scrutinise the role of the Housing Financing Fund and even review the legislation governing it.

Expansion of the banking system

In recent years the Icelandic credit system has expanded enormously.[12] At the end of 2004, the domestic lending stock and portfolio holdings of the credit system amounted to 2,654 b.kr., having increased by 446 b.kr. year-on-year, or 21% – a growth record in both absolute and percentage terms. Inter-institutional lending should be borne in mind when examining the credit system accounts. A sizeable share of lending by non-residents is provided to the banking system[13] in the form of foreign debt issues and foreign borrowing by members of the banking system itself. At the same time, pension funds are major buyers of securities issued by credit undertakings, and significant amounts are also lent by the banking system to other agents within the credit system, to name a few examples. Taking this into account, the banking system experienced the greatest growth of all credit system agents in 2004.

Table 5 Accounts of the credit system 2003 and 2004

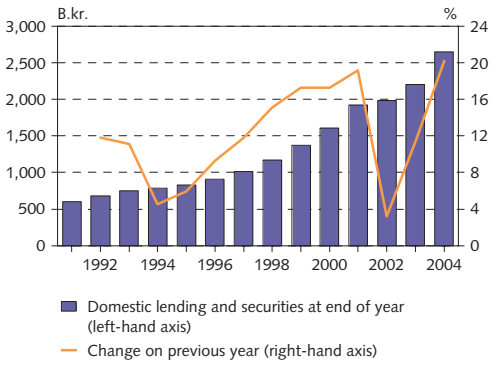
B.kr.	*2003*	*2004*[1]	*Change*
Banking system	1,035	1,425	390
Miscellaneous credit undertakings	551	634	83
Housing Financing Fund	446	447	1
Credit undertakings subject to minimum reserve requirements	62	145	83
Other	43	42	-1
Pension funds	629	721	92
Insurance companies	64	67	3
Mutual and investment funds	185	257	72
Foreign lending	1,132	1,612	480
State lending funds	328	314	-14
Total	3,923	5,029	1,106
Less inter-institutional transactions	-1,715	-2,375	-660
Domestic lending and securities	2,208	2,654	446

1. Partly preliminary or estimated.

Source: Central Bank of Iceland.

Chart 26

The credit system 1991-2004

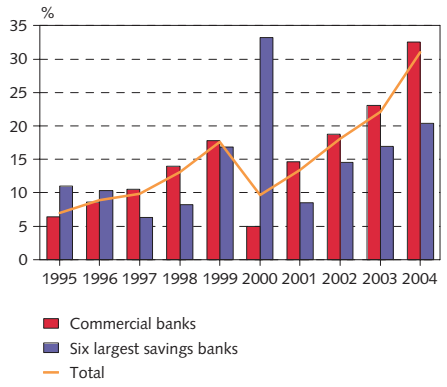


Source: Central Bank of Iceland.

12. The credit system comprises all domestic credit providers: the banking system, miscellaneous credit undertakings, pension funds, insurance companies, securities and investment funds, state investment funds and non-residents.

13. The banking system comprises the commercial banks and savings banks, credit cooperatives and the Central Bank of Iceland.

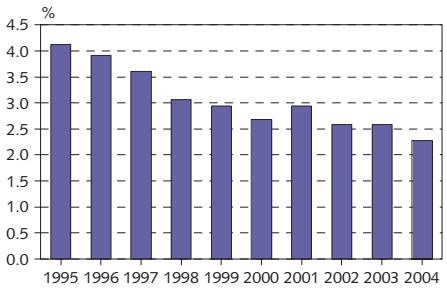
Chart 27
Return on equity of commercial banks and largest savings banks 1995-2004[1]



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

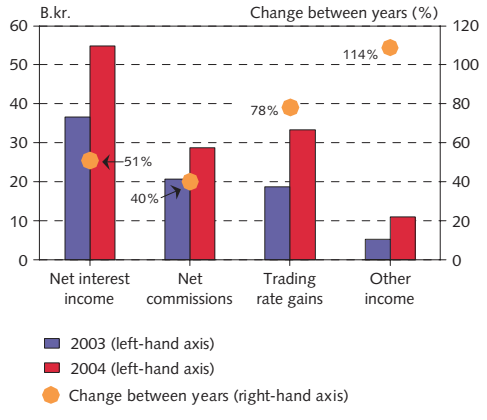
Chart 28
Interest margin 1995-2004[1]

Net interest income as a ratio of the average between total assets at the start and end of the period



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Chart 29
Net operating income of commercial banks and largest savings banks in 2003 and 2004[1]



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports.

This report discusses the most important financial companies, i.e. the commercial banks and largest savings banks, from a financial stability viewpoint. Discussions of the commercial banks and largest savings banks refer to aggregate amounts unless otherwise stated. In some instances the small size of the six largest savings banks relative to the commercial banks means that their position is at odds with what is stated for the aggregate position.

Operating results

Profitability seldom higher

Profitability was very strong at the commercial banks and largest savings banks in 2004. At 31%, their combined return on equity has seldom if ever been higher. The main explanations are increased interest income following a surge in lending, large income from fees and commissions and substantial gains on portfolios of domestic securities, especially equities. Year-on-year comparisons are complicated by a number of factors, especially Kaupthing Bank's acquisition of the Danish FIH Bank, which became part of the Kaupthing Bank group in Q3/2004.

Interest income surged but the interest margin narrowed

Net interest income[14] is the commercial banks' and savings banks' largest income item. Other main sources of income are net commissions and trading gains. In the recent term, the share of net interest income in total income of the commercial banks and largest savings banks has been declining, while trading gains have been increasing.

In 2004, net interest income of the commercial banks and savings banks amounted to 55 b.kr. compared with 37 b.kr. in 2003, a 51% increase year-on-year. Even though net income grew, the interest margin[15] narrowed from 2.6% in 2003 to 2.3% in 2004. Thus the increase in total capital outweighed the increase in net interest income. Growth in foreign currency-denominated lending, mortgage lending and lending by foreign subsidiaries has served to narrow the margin.

Substantial trading gains on domestic portfolios, especially equities

Net commissions amounted to 29 b.kr. in 2004, compared with 21 b.kr. in 2003, a year-on-year increase of 40%. Trading rate gains on financial activities grew substantially year-on-year. In 2004 they amounted to 33 b.kr., as against 19 b.kr. in 2003 – an increase of 78%. Hefty gains were recorded on trading book equities in 2004 amounting to more than 25 b.kr., or 76% of total trading gains on

14. Interest income less interest expenses.
15. The ratio of net interest income (interest income less interest expenses) to the average between total assets at the start and end of the period. Annualised figure.

financial activities. Icelandic equities produced very strong returns in 2004 for the second consecutive year, with a 59% rise in the ICEX-15 index explaining much of the trading gains and some of the growth in commissions. Other income[16] of commercial banks and savings banks also increased substantially year-on-year, and totalled 11 b.kr. in 2004.

Lower cost/income ratio

In recent years the cost/income ratio[17] of the commercial banks and largest savings banks has been in the range 60%-70%. Strong operating income in 2004 brought down the cost/income ratio to 46%.

Much lower ratio of loan loss provisions in 2004

Loan-loss provisions only increased marginally year-on-year in 2004 despite hefty lending growth. In 2004 the commercial banks' and largest savings banks' loan-loss provisions amounted to just under 13.5 b.kr., compared with just over 13.4 b.kr. in 2003. As a proportion of average loan stock, total provisions for loan losses by the commercial banks and largest savings banks amounted to 0.8% in 2004, the lowest ratio since 2000.

For the commercial banks alone, provisions for loan losses as a proportion of average lending dropped sharply year-on-year in 2004, to 0.75% from 1.3% in 2003. It has been noted that a decrease in arrears and improved credit control have reduced the commercial banks' need to write off loans.

Divergent positions of commercial banks and savings banks

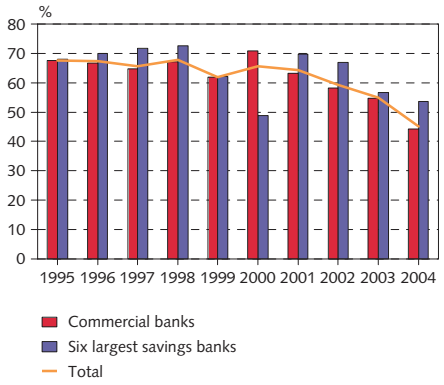
As mentioned above, the commercial banks and largest savings banks recorded very high returns on equity in 2004. At 32%, the ROE of the commercial banks has seldom been higher, if ever. ROE of the largest savings banks was 20%, their highest figure since 2000 when several savings banks sold their shares in Kaupthing and others marked them to market in part or in full, thereby posting substantial trading gains. Interest margins remained narrower for commercial banks than for the largest savings banks, which have a smaller share of corporate lending, especially foreign on-lending. The savings banks had a higher cost/income ratio than the commercial banks, and higher provisions for loan losses as a proportion of average lending.

The commercial banks' pre-tax return on equity in 2004 averaged 39%. If gains on the banks' trading books are excluded, this figure would have been 16%, other things being equal.[18] Taking this

Chart 30

Cost/income ratio 1995-2004[1]

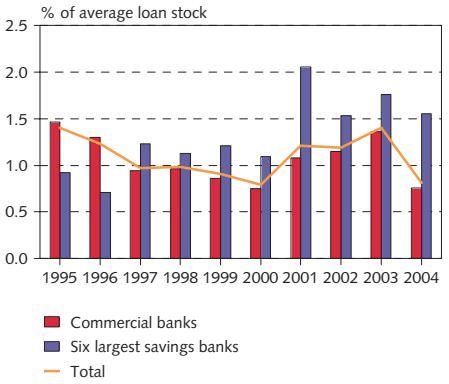
Operating expenses as a proportion of net operating income



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Chart 31

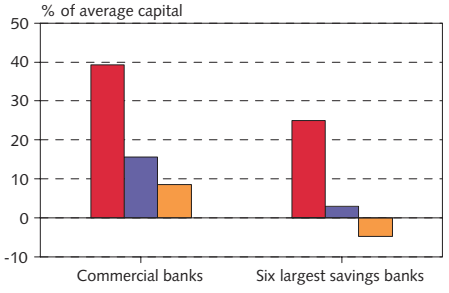
Loan-loss provisions 1995-2004[1]



1. Commercial banks' and six largest savings banks' consolidated accounts.
Source: Commercial banks' and savings banks' annual reports.

Chart 32

Return on equity of commercial banks and largest savings banks in 2004



ROE I: Profit before tax as a ratio of average capital position over the period.
ROE II: ROE I less trading book gains.
ROE III: ROE II less income from equities and other holdings and sundry income.

Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

16. Other income comprises net income on insurance activities, earnings from equities and holdings in associates, and sundry operating income. Sjóvá-Almennar tryggingar insurance company was part of the Íslandsbanki group for the whole of 2004 but only from Q4/2003, which explains part of the year-on-year increase in other income. Íslandsbanki also posted a gain of more than 3 b.kr. on the sale of shares in Straumur Fjárfestingarbanki investment bank among sundry operating income, which is included here with other income.
17. Operating expenses as a proportion of net operating income.
18. It should be pointed out that, generally, a considerable part of trading gains is unrealised. Other qualifications are also needed, for example that expenses are to some degree linked to profit. Considerable financial expenses are also incurred in connection with securities positions, but are not deducted here.

one step further and excluding income from equities and other holdings, and sundry income, from the banks' profit before tax would leave an average ROE of 9%, other things remaining equal. For the largest savings banks, profit before tax for the first half was 25%, but drops to 3% if trading book gains are excluded and other factors unchanged. Excluding income from equities and other holdings and sundry income would leave the savings banks' ROE negative. Clearly the savings banks' profitability would have been unacceptable if securities market developments had not been so favourable in 2004.

International Financial Reporting Standards and Basel II

As of 2005, all companies listed on Iceland Stock Exchange which publish consolidated accounts must observe the International Financial Reporting Standards (IFRS). Since the three largest Icelandic commercial banks fall into this category, their results for Q1/2005 will need to be published according to the IFRS. New capital regulations for financial undertakings (Basel II) enter into force in two phases at the end of 2006 and 2007, and Icelandic financial companies and the Financial Supervisory Authority (FME) have already begun preparations for their introduction.

Lending

Increased activity in neighbouring countries

The bulk of the commercial banks' and largest savings banks' assets is in the form of lending. At the end of 2004 their outstanding loan stock totalled 2,260 b.kr., compared with 1,109 b.kr. at the end of 2003. This represents an increase of 1,151 b.kr., or 104%, in the space of a year. It should be underlined that these are consolidated figures and more than half the lending growth is explained by acquisitions of foreign subsidiaries.

According to data from the FME, the outstanding stock of lending by the largest commercial banks to non-residents at the end of 2004 amounted to 1,269 b.kr., which was 60% of their consolidated total lending. The corresponding ratio at the end of 2003 was 26%. Growth in foreign lending has broadened the banks' income base, leaving them less exposed to domestic shocks, but

Table 6 Foreign lending by the three largest commercial banks (consolidated accounts) at end-2004

Country/region	*M.kr.*
Scandinavia	831,775
Benelux	190,548
UK	132,936
Germany	22,415
North America	22,195
Other European countries	8,191
Unclassified/other	61,095
Total	1,269,155

Sources: Financial Supervisory Authority (FME) and Central Bank of Iceland estimates.

correspondingly more exposed to foreign risks. Itemised FME data show that the largest share of foreign lending by the commercial banks' groups is to borrowers in the Nordic countries. The largest item is the Danish FIH Bank, part of the Kaupthing Bank group. Considerable amounts have also been lent to Benelux – mainly Luxembourg – and to the UK. In all, 95% of the commercial banks' foreign lending is to northern Europe and North America. Thus the bulk of lending is to stable regions where the general economic situation is good.

Lending surges

Lending by deposit money banks (DMBs)[19] at the end of 2004 amounted to 1,302 b.kr., having grown 42% year-on-year. Domestic borrowers accounted for 1,111 b.kr. of the total outstanding loan stock at end-2004 (an increase of 38%) and foreign borrowers 191 b.kr. (up 68%). Corporate lending grew by over 33% last year and loans to households by 64%. This figure reflects the surge in mortgage lending to households, part of which was deployed on pre-payment of HFF mortgage loans. Some credit institutions have lent up to 100% of the market value of housing. This can be questionable when housing prices fall. The banks' mortgage loans are generally indexed to the CPI with a maturity of up to 40 years. So far, the banks have only partly matched their liabilities to their mortgage lending, so their interest rate risk has grown.

Foreign currency-denominated lending continues to grow

The DMBs' outstanding stock of foreign currency-denominated loans at the end of 2004 stood at 660 b.kr., an increase of 210 b.kr. year-

Table 7 DMB lending in 2004[1]

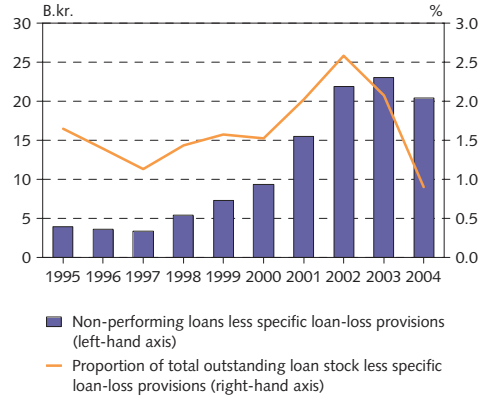
	Increase in 2004		*Position at end-2004*
	B.kr.	*%*	*B.kr.*
Total lending	382.9	41.7	1,301.5
Domestic lending	305.7	38.0	1,111.1
Corporate	193.5	33.0	779.4
Household	117.4	63.8	301.6
Foreign lending	77.2	68.2	190.5
Foreign currency-denominated lending			
Total foreign currency-denominated ending	210.0	46.7	659.7
Domestic lending	130.2	37.6	476.7
Corporate	113.3	34.4	442.4
Household	13.6	178.9	21.2
Foreign lending	79.7	77.2	183.0

1. Parent companies.

Source: Central Bank of Iceland.

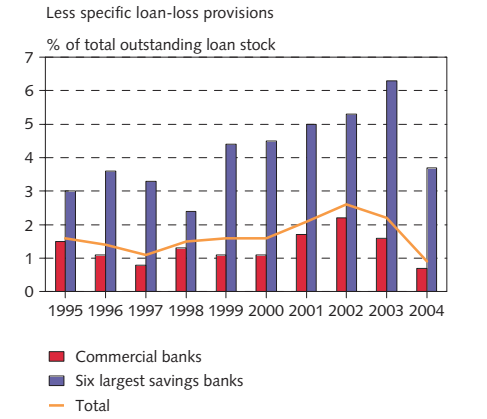
19. i.e. commercial banks, savings banks and credit cooperatives. These figures are for loans by the parent company and not the group.

Chart 33
Total non-performing loans of commercial banks and largest savings banks 1995-2004[1]



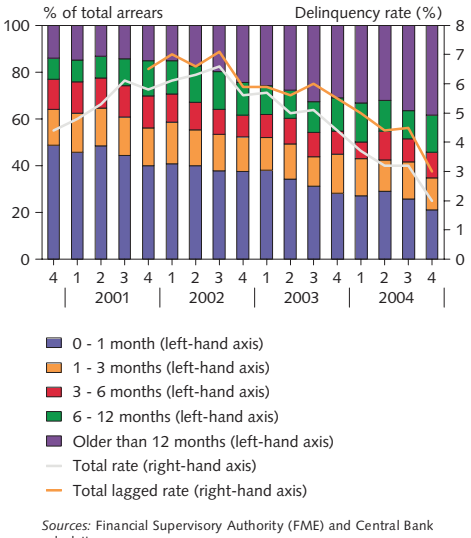
1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Chart 34
Non-performing loans of commercial banks and largest savings banks 1995-2004[1]



1. Commercial banks' and six largest savings banks' consolidated accounts.
Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Chart 35
Composition of arrears with commercial banks and savings banks and the delinquency rate Q4/2000 - Q4/2004



Sources: Financial Supervisory Authority (FME) and Central Bank calculations.

on-year, or 47%. Roughly 72% of their foreign currency-denominated lending is to Icelandic residents. Foreign currency-denominated lending to non-residents shot up by 77% year-on-year to 183 b.kr. at the end of last year. Only 3% of foreign currency-denominated lending is to the household sector. Nonetheless, households have been increasing their foreign currency-denominated borrowing in recent times, with 14 b.kr. growth in this category in the course of 2004.

Lowest ratio of non-performing loans for many years ...

The ratio of non-performing loans[20] with commercial banks and the largest savings banks was 0.9% at the end of 2004. Corresponding ratios were 2.1% in 2003 and 2.6% in 2002, which was the highest proportion for several years. The lower ratio is mostly explained by an increase in total lending, but the nominal amount of non-performing loans at the end of the year also dropped in 2004, for the first time for many years. Thus the stock of non-performing loans, less specific loan-loss provisions, amounted to 20 b.kr. at end-2004, as against 23 b.kr. at the end of 2003, which was their highest-ever nominal amount. All in all, the decrease in both the ratio and stock of non-performing loans is a positive sign, indicating an improvement in loan quality.

... and delinquency rate at a historical low

The delinquency rate[21] with commercial banks and savings banks at the end of 2004 was 2%, down from 4.4% at the end of the previous year. This is the lowest delinquency rate recorded since regular compilation of data on arrears began at the end of 2000. Since new lending is unlikely to end up in arrears immediately, the lagged delinquency rate[22] is considered to give a representative picture of the trend. Measured in these terms, arrears have also been trending downwards to 3% at the end of 2004, compared with 5.5% at the end of the previous year.

The nominal amount of total arrears with commercial banks and savings banks at the end of 2004 was 28 b.kr., compared with 41 b.kr. at the end of 2003.[23] Total arrears therefore dropped by 13 b.kr., or 32%, in the space of a single year. The commercial banks appear to have written off considerable sums, reducing the total figure, cf. the discussion below. It should be borne in mind that growth in the banks' mortgage lending in the second half of last year may have increased debt conversion. Classified by duration, the longest and

20. Non-performing loans as a proportion of total outstanding loan stock less specific loan-loss provisions. Non-performing loans are loans for which specific provisions have been posted, less specific loan-loss provisions, plus other interest-frozen loans. Other interest-frozen loans are deemed potentially at risk, i.e. it will temporarily not be possible to collect interest on them but the principal will be retrieved.
21. Total arrears as a proportion of outstanding loans including provisions for loan losses.
22. Total arrears as a proportion of outstanding loans one year before, including provisions for loan losses.
23. It should be noted that arrears generally decrease in the fourth quarter, due to final write-offs. Arrears within the year may therefore easily exceed the end-of-year figure.

thereby most serious arrears accounted for 38% of total delinquency at the end of 2004. This category has been on the increase recently and the proportion of shorter arrears has fallen.

Lower ratios of non-performing loans and delinquency go hand in hand with the favourable economic climate for businesses and households. Business profitability was quite substantial last year, the employment situation is strong and improving, and real disposable income has been steadily increasing.

Loan quality probably higher for commercial banks than savings banks

The main benchmarks for quality of loan portfolios indicate that it is higher among the commercial banks than the savings banks. The savings banks had a much higher delinquency rate of 3.9% at the end of 2004, compared with 1.8% for the commercial banks. Lagged delinquency rates display the same divergence. Likewise, the year-end ratio of non-performing loans was 3.7% for the largest savings banks but 0.7% for by commercial banks. Delinquency and non-performing loans are reflected in a much larger and growing ratio of loan-loss provisions for savings banks than commercial banks in recent years. Accordingly, the commercial banks appear to have higher-quality loan portfolios than the savings banks.

Low loan-loss reserve ratio ...

Loan-loss reserves of the commercial banks and largest savings banks amounted to 40 b.kr. at the end of 2004, an increase of 11 b.kr. (38%) from 29 b.kr. at the end of the previous year. Although they increased, loan-loss reserves have not grown in pace with lending growth. As a proportion of total outstanding loan stock, the commercial banks' and largest savings banks' loan-loss reserves were 1.7% at the end of 2004, probably the lowest ratio ever. It was 2.5% at the end of 2003 and the ten-year average was 2.3%. Reserves were depleted by a large increase in write-offs in 2004. Commercial banks have also pointed out that much tighter credit control processes explain part of the drop in arrears and write-offs.

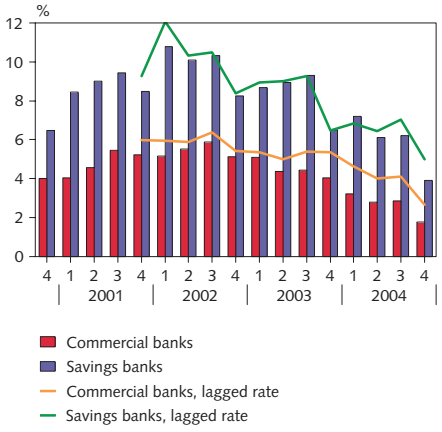
... but a sharp increase in the banks' loan write-offs

Write-offs by the commercial banks increased sharply last year. In 2004 they wrote off, as unrecoverable, bad debts to the tune of 12 b.kr., which is 91% more than the previous year. The spike in write-offs in 2004 may partly explain the commercial banks' current low ratios of non-performing loans, delinquency and loan-loss reserves.

Principles for commercial banks and savings banks to use in their write-offs are covered in rules on the financial statements of credit institutions.[24] These state that a borrower's commitment shall be entered as unrecoverable in the annual accounts of the undertaking and the amount deducted from the allowance account for credit losses in the event of the completion of bankruptcy proceedings,

Chart 36

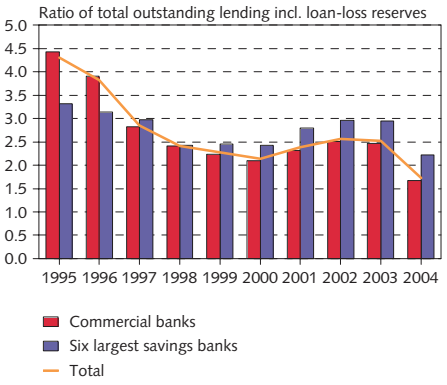
Delinquency rate of commercial banks and savings banks Q4/2000 - Q4/2004



Sources: Financial Supervisory Authority (FME) and Central Bank calculations.

Chart 37

Loan-loss reserves 1995-2004



Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

24. FME Rules on the financial statements of credit institutions No. 834/2003.

remission or reduction of debt, if the undertaking resolves to cease debt collection measures, or if a loss is deemed certain to occur. Under the rules, each undertaking shall also formulate its own rules of procedure as regards write-offs.

The increase in unrecoverable loan losses is not explained by the recent surge in commercial banks' lending. New lending is unlikely to end up in arrears immediately, as pointed out above, and even less to be written off. Likewise, increased credit as a result of acquisitions of foreign subsidiaries is unlikely to drive up write-offs. The commercial banks have stated that their largest foreign subsidiaries' loan portfolios are sound with a low delinquency rate. The main explanation for greater unrecoverable loan losses is that the banks are completing measures to tidy up their lending portfolios after the last wave of credit expansion.

Increasing trend towards leveraged stock purchases

The DMBs' lending against share collateral grew by more than 100 b.kr. year-on-year at the end of 2004.[25] It was equivalent to 17% of the market value of equities listed on ICEX at the end of 2004, compared with 11% in 2003.[26] Leveraged stock purchases are therefore clearly being made on a growing scale, which could be questionable if equity markets turn down. There is no doubt that this form of financing contributed to last year's surge in Icelandic equity prices.

Largest exposures still increasing

According to FME data, total large exposures[27] of commercial banks amounted to 260 b.kr. at end-2004, the equivalent of 90% of their own funds. In all, the banks had 34 large exposures at the end of 2004. By comparison, total large exposures at the end of 2003 numbered 40 and their value was 180 b.kr., or 140% of own funds. It should be remembered that the swelling of commercial banks' capital in 2004 has naturally reduced their number of large exposures. Since the total amount of large exposures has grown by 80 b.kr. year-on-year, it can be inferred that the largest exposures have been augmented since 2003.

The FME has pointed out that individual borrowers or groups of connected clients can pose a large credit risk on the books of more than one financial undertaking.[28] Potentially, the authorised maximum amount of a single exposure could put up to one-quarter of the banking system's own funds at stake. The importance of this consideration for financial stability goes without saying.

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25. Since data for deposit money banks are based on the parent company, they do not extend to foreign subsidiaries' operations. Lending by investment banks with share collateral is also excluded.
26. It should be noted that collateral for lending may be in the form of domestic, foreign, listed and unlisted equities.
27. An exposure (lending, securities holding, guarantee granted, etc.) incurred by a financial undertaking to a client or a group of connected clients, the value of which amounts to 10% or more of the own funds of the undertaking.
28. Speech by Páll Gunnar Pálsson, Director of the FME, at its Annual Meeting, November 3, 2004.

Marketable securities

Marketable securities portfolios grew ...

The commercial banks' and savings banks' total marketable securities portfolios and shareholdings[29] amounted to 479 b.kr. at the end of 2004, an increase of 192 b.kr. or 67% year-on-year. The bulk of marketable securities holdings is in the form of bonds, which amounted to 281 b.kr. at the end of 2004 after a 62% increase year-on-year. Holdings of equities were 179 b.kr. at the same time, having increased by 85%. The growth in commercial banks' and savings banks' marketable securities exposures must be seen in the context of changes in their group structures after acquisition of foreign subsidiaries, and a 59% rise in the ICEX-15 index in 2004.

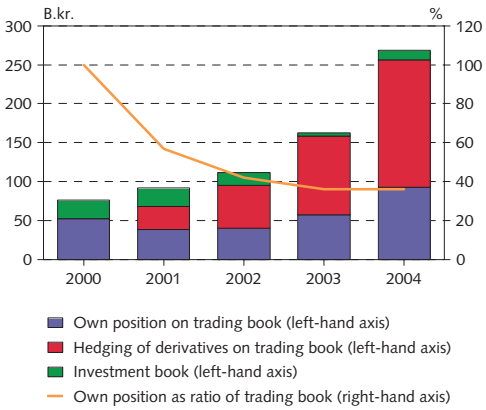
... but market risk dropped relative to capital

The commercial banks account for 95% of total marketable securities portfolios and the savings banks for only 5%. As a result of derivative agreements with their clients, the banks' risk from their marketable securities exposures differs from the book position. The book value of commercial banks' marketable bond portfolios was 269 b.kr., but after allowance for derivatives their exposures at own risk were 105 b.kr. Similarly, the book value of commercial banks' marketable share portfolios was 169 b.kr. at the end of 2004, but after allowance for derivatives their exposures at own risk were 119 b.kr.

The banks' securities exposures at own risk increased by 86 b.kr. in 2004, equally divided between bonds and equities. Notwithstanding this nominal increase, exposures at own risk decreased year-on-year as a proportion of statutory capital. Commercial banks' share portfolios at own risk at the end of 2004 were equivalent to 41% of their capital, compared with 59% in 2003. Bond portfolios were equivalent to 36% at year-end as against 48% in 2003. Measured according to FME rules on capital adequacy of financial undertakings, i.e. the trading book market risk base, the commercial banks' market risk also decreased proportionally year-on-year.

Chart 38

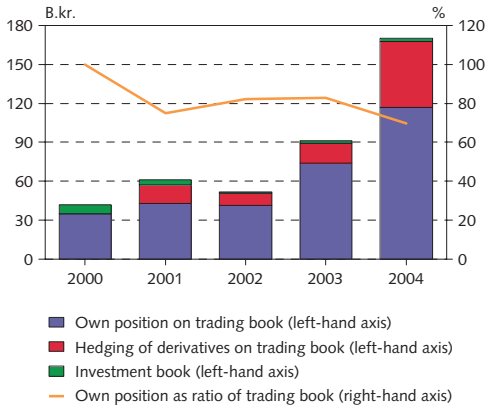
Bond positions of commercial banks 2000-2004



Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Chart 39

Equity positions of commercial banks 2000-2004



Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Financing

Foreign currency-denominated financing still increasing ...

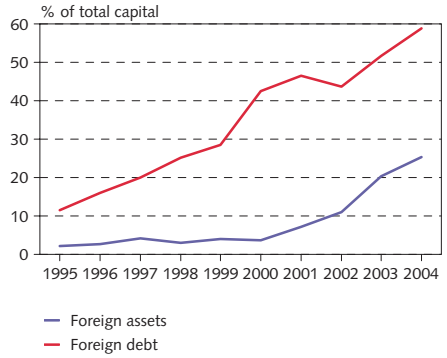
A number of channels are available to financial companies for financing their activities. The largest debt item of the commercial banks and savings banks at the end of 2004 was securities issuance, etc.[30] at 1,646 b.kr., of which their outstanding securities issuance accounted for 1,509 b.kr. At the end of 2004, more than 90% of the DMBs' securities issues were denominated in foreign currency. An even higher ratio may be expected when activities of foreign subsidiaries are included in the

29. Both trading book and investment book securities, plus holdings in affiliates and associated companies.

30. Securities issuance, credit facilities and other borrowing.

Chart 40

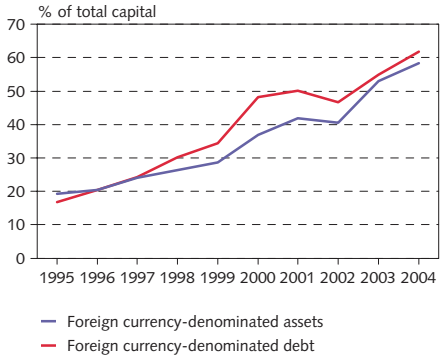
Foreign assets and debt of DMBs[1] 1995-2004



1. Parent companies.
Source: Central Bank of Iceland.

Chart 41

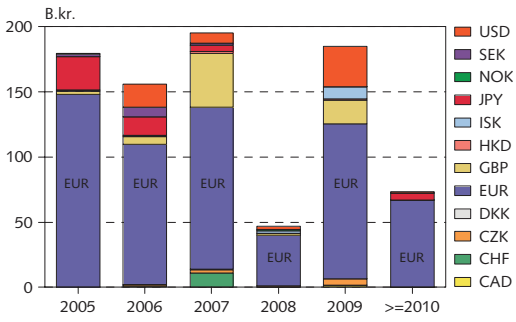
DMB foreign currency-denominated assets and debt[1] 1995-2004



1. Parent companies.
Source: Central Bank of Iceland.

Chart 42

Maturity profile of commercial banks' MTN programmes



Sources: Reuters and Central Bank calculations.

consolidated accounts.[31] Securities issuance by commercial banks soared during the year by 962 b.kr., or 176%. Part of the increase was in connection with acquisitions of foreign subsidiaries. The DMBs' securities issuance grew by 439 b.kr. (79%) year-on-year.

DMBs have greatly stepped up their foreign-currency denominated financing in recent years. At year-end 2004 their foreign currency-denominated liabilities were equivalent to 62% of total assets, compared with 55% in 2003 and 34% in 1999. The consolidated ratio for commercial banks is presumably even higher in light of extensive operations by their foreign subsidiaries. The majority of foreign currency-denominated financing is now long-term, which is a marked improvement from the times when banks relied too heavily on short-term borrowing.

... and credit ratings ever more crucial

Easier access to foreign currency-denominated financing, especially for commercial banks, has been founded on strong credit ratings, although market conditions have also been extremely favourable. Good credit ratings have facilitated the banks' access to major international markets for debt issuance and has reduced their issuer risk spreads.[32] The commercial banks' credit ratings are discussed in more detail in Box 4.

The risks faced by Icelandic banks are more complex now. It is important to keep a close watch on factors affecting their operations, including financing in international markets. It may be pointed out that increased spreads in credit markets caused by an adjustment in risk pricing, coinciding with higher base rates, could have a significant impact on the cost of the banks' foreign funding.

Diminishing importance of deposits for funding

Securities issuance has increasingly replaced deposits on the liabilities side, a trend which continued in 2004. Deposits with commercial banks and largest savings banks amounted to 672 b.kr. at the end of 2004, an increase of 28% year-on-year. As a proportion of total liabilities, deposits were 23%, compared with 35% at the end of 2003. The main reason for the shrinking share of deposits was Kaupthing Bank's acquisition of FIH Bank of Denmark, which largely funds its operations with securities issuance. Savings banks rely much more heavily than commercial banks on deposits for funding. Thus deposits accounted for 55% of total liabilities of the largest savings banks at the end of last year, while for the commercial banks the ratio was 21%.

Easy liquidity position of financial companies

The liquidity position of financial companies, measured according to rules on liquidity,[33] was easy last year. At end-2004, weighted net liquid assets of financial companies in the time belt 0-3 months were

31. Figures for deposit money banks are based on the parent company.
32. For European Medium-Term Notes and European Commercial Paper.
33. Central Bank of Iceland Rules on Liquidity Ratio No. 386/2002. These Rules are discussed in the appendix, Prudential regulation on liquidity ratio and foreign exchange balance.

Box 4

Credit ratings of the Republic of Iceland and financial companies

International credit ratings

In the global financial environment, rating agencies perform a vital role in providing objective assessment of the creditworthiness of sovereign and corporate borrowers. The three best known rating agencies are Moody's Investors Service, Standard & Poor's and Fitch Ratings. Experience shows that the ratings given by these agencies facilitate access to international capital markets. Ratings also provide an indication of the terms that a borrower will enjoy, as international financial institutions rely heavily on ratings from these agencies with regard to credit terms.

The three rating agencies mentioned above rate the Republic of Iceland, Landsvirkjun (the national power company), the Housing Financing Fund (HFF) and the three largest commercial banks, i.e. Kaupthing Bank, Landsbanki Íslands and Íslandsbanki. The Republic of Iceland enjoys a good standing as a borrower in international markets, as shown by its good credit ratings. Iceland's sovereign ratings affect other Icelandic borrowers' access to capital markets as they set a ceiling for the corporate ratings of residents.

Credit ratings become more important as the banks procure increasing amounts of finance in the markets and their share of deposit-backed financing declines. The following is a summary of the ratings of the Republic of Iceland, the three commercial banks, and the HFF.[1]

The Republic of Iceland

Moody's rating is now Aaa for long-term foreign and domestic obligations and P-1 for short-term obligations, which are the highest ratings that the agency issues. The outlook is assessed as stable. Moody's affirmed Iceland's sovereign rating in June 2004.

Standard & Poor's rating for long-term foreign obligations is AA- with a stable outlook. The agency's rating for long-term domestic obligations is AA+, and for short-term obligations it is A-1+, which is the highest short-term rating that it issues. The outlook is stable.

Fitch assigns the Republic a rating of AA- for foreign long-term obligations and F1+ for short-term obligations. Its rating of AAA for domestic long-term obligations is the highest that the agency gives. The outlook is stable. Fitch affirmed its ratings for the Republic of Iceland in May 2004.

Table 1 Republic of Iceland credit ratings

		Foreign currency		*Domestic currency*		
	Last upgrade	*Long-term*	*Short-term*	*Long-term*	*Short-term*	*Outlook*
Moody's Investors Service	June 2004	Aaa	P-1	Aaa	P-1	Stable
Standard & Poor's	February 2005	AA-	A-1+	AA+	A-1+	Stable
Fitch	May 2004	AA-	F1+	AAA	.	Stable

Source: Central Bank of Iceland.

Commercial banks and Housing Financing Fund

Moody's Investors Service is the only international rating agency to rate all three commercial banks. In November, Moody's upgraded Kaupthing Bank's credit rating. The bank's long-term deposit and senior debt ratings were upgraded from A2 to A1. Its short-term rating of P-1 and C+ financial strength rating were affirmed.

1. An article by Ólafur Ísleifsson in *Monetary Bulletin* 2001/3, "Iceland's international credit ratings", includes a discussion of the rating agencies' methodology.

Moody's announced that the rating upgrade reflects the bank's leading position in its domestic market in Iceland, the fact that it is one of the country's largest institutions, and its healthy financial fundamentals. Kaupthing Bank now has the same rating as its Danish subsidiary FIH Bank.

Íslandsbanki's ratings from Moody's are A1 for long-term deposit and senior debt, P-1 for short-term obligations and B- for financial strength. The B- rating for financial strength is the highest of the Icelandic banks. Moody's has stated that Íslandsbanki's ratings reflect its strong franchise in the Icelandic market, its sound fundamentals, good efficiency and asset quality. In November Moody's Investors Service affirmed the A1/P-1 credit rating in connection with Íslandsbanki's bid for BNbank in Norway, but placed the financial strength rating on review for possible downgrade. According to Moody's, the rating review will focus on the potential revenue upside offered by the acquisition of BNbank, the changed funding profile of the combined group and the transaction's execution risk.

In March, Moody's upgraded the long-term deposit and senior debt ratings of Landsbanki to A2 from A3 and affirmed the P-1 short-term deposit and debt ratings. The bank's financial strength rating of C was affirmed with a stable outlook. According to Moody's, the rating upgrade reflects Landsbanki's strong domestic franchise and good financial fundamentals.

Fitch Ratings also assesses Íslandsbanki and Landsbanki and affirmed the ratings of both banks in November with stable outlooks.

The Housing Financing Fund is rated by Moody's and Standard & Poor's. Both base their ratings on the Treasury's guarantee of collection on the HFF's bond issuance. Moody's awards the HFF a rating of Aaa for long-term foreign and domestic obligations. Standard & Poor's assigns the HFF the same rating as the Republic of Iceland but the outlook on the local currency rating is negative.

Table 2 Housing Financing Fund's credit ratings

		Foreign currency		*Domestic currency*		
	Last upgrade	*Long-term*	*Short-term*	*Long-term*	*Short-term*	*Outlook*
Moody's Investor Service	June 2004	Aaa	.	Aaa	.	Stable
Standard & Poor's	February 2005	AA-	A-1+	AA+	A-1+	Stable/negative[1]

1. The outlook for the domestic currency rating is negative.

Source: Central Bank of Iceland

Table 3 Commercial banks' credit ratings

	Moody's rating for foreign-currency obligations				
	Last upgrade	*Long-term*	*Short-term*	*Financial strength*	*Outlook*
Kaupthing Bank	November 2004	A1	P-1	C+	Stable
Landsbanki Íslands	March 2005	A2	P-1	C	Stable
Íslandsbanki	November 2004	A1	P-1	B-	Stable[1]

	Fitch's rating for foreign-currency obligations				
	Last upgrade	*Long-term*	*Short-term*	*Financial strength*	*Outlook*
Landsbanki Íslands	November 2004	A	F1	C	Stable
Íslandsbanki	November 2004	A	F1	C	Stable

1. The financial strength rating has been placed on review for possible downgrade.

Source: Central Bank of Iceland.

219 b.kr., a year-on-year increase of 98 b.kr., or 81%. The largest nominal increase in liquid assets was in foreign currency-denominated short-term loans to credit institutions and in marketable securities, while off-balance-sheet commitments showed the largest increase on the liquid liabilities side.

Acquisition of subsidiaries financed with new equity issues ...

Capital of commercial banks and savings banks swelled in 2004. At the end of the year their total capital amounted to 260 b.kr., an increase of 144 b.kr., or 124%, year-on-year. Some 93% of capital is accounted for by the commercial banks. All the commercial banks apart from Sparisjóðabanki made new equity offerings last year, to a total market value of 110 b.kr. The lion's share was procured by Kaupthing Bank which made two issues for a total market value of 93 b.kr., partly to finance its takeover of FIH Bank.

... and subordinated debt issues

There has been a large increase in the commercial banks' subordinated debt in the recent term. Rapidly expanding balance sheets have called for more capital. Subordinated debt that meets certain conditions is considered the equivalent of capital under law. At the end of 2004, subordinated debt of commercial banks and the largest savings banks stood at 106 b.kr., an increase of 61 b.kr., or 135%, from the previous year. The bulk of additional subordinated debt last year derives from Kaupthing Bank's issues in connection with its acquisition of FIH Bank.

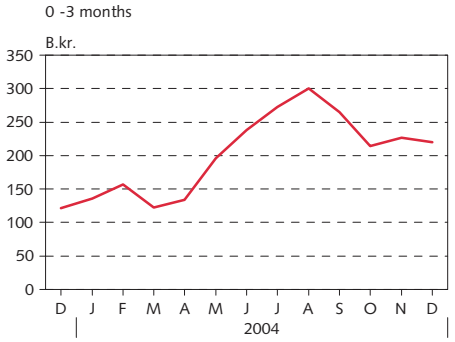
Highest capital adequacy ratio for banks for a decade

As defined under FME rules, the capital adequacy ratio (solvency ratio) of commercial banks and the largest savings banks was 12.8% at the end of 2004, the highest ratio since 1995. The capital adequacy ratio increased for commercial banks, but decreased for savings banks. The risk-weighted base expanded for both types of banks, but for commercial banks this was outweighed by hefty profits, additional subordinated debt and substantial increases in share capital.

It can only be said that the capital position of the commercial banks and largest savings banks is sound. A strong equity position and ample liquidity are important preconditions for financial stability.

Chart 43

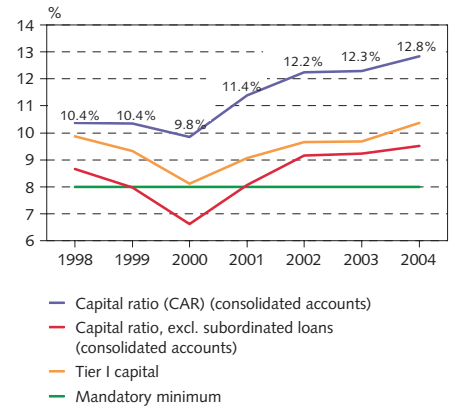
Liquidity position of institutions subject to minimum reserve requirements
December 2003 - December 2005



Source: Central Bank of Iceland.

Chart 44

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



Sources: Commercial banks' and savings banks' annual reports and Central Bank calculations.

Box 5

Financial soundness indicators

In recent years the International Monetary Fund has highlighted measures to ensure financial stability and reduce the likelihood of a financial crisis. An important part of this work is to promote the compilation and analysis of financial system data. Particular focus is given to coordinating different countries' statistical techniques to enhance cross-country comparability. In 2001, the IMF launched an initiative to enhance practices in this field. A major phase in this project was completed in July last year with the publication of the IMF's Compilation Guide for Financial Soundness Indicators after three years of preparation.

Financial soundness indicators (FSIs) are indicators of the current financial health and soundness of the financial institutions in a country, and of their corporate and household counterparts. The purpose of FSIs is to support the assessment and surveillance of the strengths and vulnerabilities of financial systems with the objective of enhancing financial stability and, in particular, limiting the likelihood of failure of the financial system. FSIs are compilations of data from individual institutions and markets within the financial system, and therefore focus on the system as a whole rather than individual institutions.

FSIs are divided into a core set and an encouraged set. The core set is confined to indicators from deposit-takers. A wider range of indicators for deposit-takers is included in the encouraged set, together with indicators for other financial system agents and markets. A total of 39 indicators have been defined, 12 of them in the core set. The Compilation Guide emphasises that data should be compiled for deposit-takers headquartered in the relevant country on a consolidated group basis, since in the IMF's view these offer the most suitable compilation method for assessments of financial soundness. Table 1 presents the core set of FSIs for Iceland over the past five years.

Table 1 Core set of financial soundness indicators for Iceland 2000-2004[1]

Deposit money banks[2]	*2000*	*2001*	*2002*	*2003*	*2004*
1. Regulatory capital to risk-weighted assets	10	11	12	12	13
2. Regulatory Tier 1 capital to risk-weighted assets	8	9	10	10	10
3. Non-performing loans net of provisions to capital	15	20	25	19	7
4. Non-performing loans to total gross loans	2	3	4	4	2
5. Sectoral distribution of loans to total loans		–	see Table 2	–	
6. Return on assets	1	1	1	1	2
7. Return on equity	10	12	16	19	23
8. Interest margin to gross income	55	64	51	44	41
9. Non-interest expenses to gross income	66	67	59	55	45
10. Liquid assets to total assets	1	1	1	1	1
11. Liquid assets to short-term liabilities	2	3	2	3	3
12. Net open position in foreign exchange to capital	-3	0	0	0	1

1. These indicators are published with the qualification that they are compiled from available data which have not yet been harmonised with IMF guidelines. The indicators may change when harmonised. 2. Based on consolidated accounts of the commercial banks and six largest savings banks.

Source: Central Bank of Iceland.

The IMF followed through publication of the Compilation Guide with the next phase in the programme, the Coordinated Compilation Exercise. This ambitious project will be under way for three years. A total of 61 countries were selected to participate, including Iceland. The World Bank and Bank for International Settlements are also taking part, along with regional institutions such as the European Central Bank. The Central Bank of Iceland leads the work conducted in Iceland.

Participating countries commit themselves to submit a core set of FSIs, and the IMF also encourages them to submit as comprehensive an encouraged set as possible. Data will be compiled based on the position at the end of 2005 and submitted at the end of summer 2006. Since the IMF underlines that the methodology for compiling FSIs should be as consistent as possible with the Compilation Guide, participating countries are also obliged to submit detailed metadata. As a result, the IMF hopes that this will yield high-quality FSIs and enable a realistic picture to be gained from cross-country comparisons.

The IMF has a number of aims with the exercise: to enhance participating countries' capability in compiling FSIs and coordinate their institutional cooperation; to harmonise compilation of FSIs between countries; and to enhance transparency and market discipline by dissemination of FSIs and metadata.

Table 2 Sectoral breakdown of total credit in Iceland 2000-2004[1]

DMB lending (%)[1]	*2000*	*2001*	*2002*	*2003*[2]	*2004*
Treasury and govt. institutions	3	4	4	3	1
Municipalities	2	2	2	1	1
Non-bank financial institutions	9	8	9	13	12
Industries, total	61	60	56	53	52
Agriculture	2	2	2	1	1
Fisheries	21	18	15	4	4
Commerce	12	12	11	12	8
Manufacturing	8	8	8	13	10
Contractors	2	3	3	4	3
Transportation	1	1	1	2	1
Electricity, water and heating	0	0	0	0	0
Services	15	16	17	18	25
Households	25	23	22	17	20
Foreign sector	0	4	6	10	13
Unclassified	0	0	0	2	1

1. Parent companies of deposit money banks. 2. Some lending categories were transferred between sectors under a reclassification in 2003. Figures for credit to households and fisheries decreased as a result, while marine processing is now classified under manufacturing and sale of marine products under commerce.

Source: Central Bank of Iceland.

Ongoing operational risk reduction

Payment systems and securities settlement systems are an important element of the financial system and it is important to strengthen their safe and efficient operation. The Central Bank has formulated a policy in this area aimed at adapting Icelandic systems to international requirements. This work has focused on clarifying the qualifications and responsibilities of payment system participants and management, and reviewing settlement processes. Risk management has been strengthened by defining the relevant risk factors, making debt positions visible, monitoring of risks, restricting debt positions and requiring collateral for settlements. The Central Bank has also recently reviewed monitoring arrangements for the RTGS system.

The Central Bank considers that there is now both an opportunity and a need for careful evaluation of operational risk in Icelandic payment systems. It is necessary to clarify responsibility for the operation of the RTGS system and extend arrangements for operational risk management. This will need to include a review of the institutional framework and management of payment system operations. Technical structures also need to be reviewed with the aim of reducing contagion risk between systems.

Icelandic payment and settlement systems

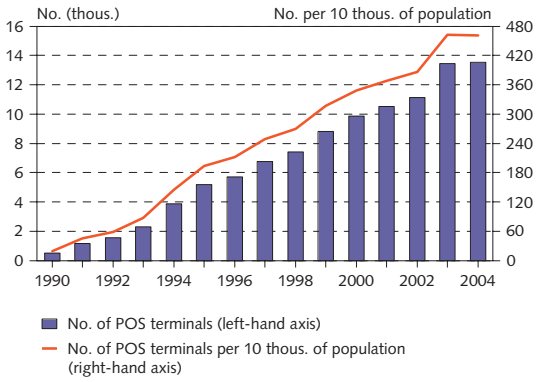
Two types of payment system are in operation in Iceland, both of them settlement systems, i.e. the Central Bank's real-time gross settlement (RTGS) system and the netting system operated by Fjölgreiðslumiðlun hf. (FGM). Settlement of payments related to securities transactions are processed by the RTGS system. Participants are the commercial banks, savings banks and Central Bank. The Icelandic Banks' Data Centre (RB) provides software services for the systems and the Central Bank acts as a settlement provider. The systems are described in more detail in Box 6.

Developments in the use of payment media

The use of payment media has evolved dramatically in Iceland in recent years. At the end of 2004, notes and coin in circulation outside the Central Bank amounted to 11.6 b.kr., an increase of 1 b.kr. from 2003. Credit and debit card turnover has increased alongside a contraction in cheque turnover. Parallel to this development, there has been an enormous increase in the number of POS terminals in Iceland over the past 15 years. Credit card transaction volume increased by 12.7% in 2004, to 178 b.kr. The increase was divided between 15 b.kr. in domestic transactions and 5 b.kr. outside Iceland. The number of credit card transactions increased by 8%. Debit card transaction volume increased by 10% in 2004, from 359 b.kr. to 395 b.kr., with the bulk of the growth in domestic transactions. The number of debit card transactions increased by 7.4% year-on-year. Cheque transactions declined by more than 26% in number year-on-year and in volume by 13% to 292 b.kr. at the end of 2004.

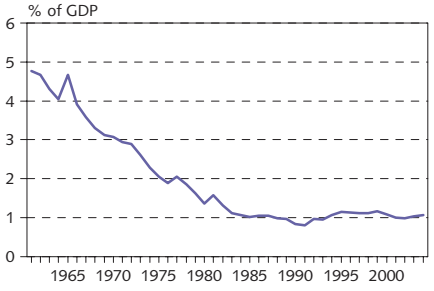
Charts 45-52 show various developments in the use of payment media in Iceland in recent years.

Chart 45
POS terminals 1990-2004



Source: Central Bank of Iceland.

Chart 46
Notes and coin in circulation 1961-2004



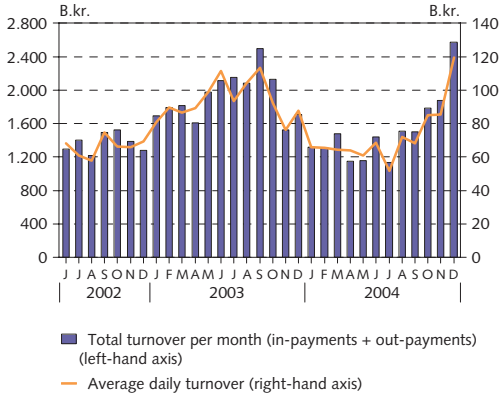
Source: Central Bank of Iceland.

Box 6

Icelandic payment and settlement systems

Chart 1

RTGS system turnover
June 2002 - December 2004



Source: Central Bank of Iceland.

RTGS system

The Central Bank's Real-Time Gross Settlement (RTGS) system entered service in December 2000. It handles final settlement of individual payment orders between participants of 10 m.kr. or above as soon as the deposit in the payer's account allows this to be done. The system thereby transfers payment orders which are above the minimum needed to qualify for the RTGS system directly to or from participants' current accounts with the Central Bank. Administration of the RTGS system has been assigned to the Central Bank, whose duty is to strengthen the security, efficiency and independence of the system, in line with prevailing international practice. The RTGS system is subject to the provisions of Central Bank Rules No. 788/2003.

The accompanying chart shows turnover in the RTGS system from June 2002 to the end of 2004. Total monthly turnover in the system, i.e. deposits and withdrawals, averaged 1,519 b.kr. in 2004. Daily turnover averaged 72.5 b.kr.

Netting system

The Central Bank has taken part in development of the Fjölgreiðslumiðlun (FGM) netting system. FGM is jointly owned by the commercial banks, payment card companies and the Central Bank. It handles netting of accumulated payment orders between participants lower than 10 m.kr. Real-time netting positions between system participants are visible so that they can monitor and manage payment intermediation risks. Customers have access to money deposited in accounts as soon as payment is made. Participants negotiate authorisations for netting positions between them and pledge securities as collateral for the highest intraday overdraft. They can also deposit liquid funds in dedicated accounts to meet temporary imbalances in payment positions between them. Settlements are made on participants' RTGS accounts in the Central Bank at 17.00 hrs. on banking days. The netting system is subject to the provisions of Central Bank Rules No. 789/2003.

Securities settlement system

In most countries, central banks are assigned the role of promoting development of reliable and efficient securities settlement systems. The Icelandic securities settlement system plays a key role for the domestic securities market, financial system and financial stability. The Central Bank also uses the settlement system in its own transactions with securities.

The Icelandic securities settlement system is operated on the basis of an agreement between the Central Bank, Icelandic Securities Depository (ISD) and Iceland Stock Exchange (ICEX). It includes all institutional arrangements for confirmation, determination of rights and obligations, clearance and settlement of securities trades and safekeeping of securities. Securities settlement includes the final transfer of securities (delivery) and funds (payment) between the buyer and the seller.

In the Icelandic securities settlement system the different components are divided between the three institutions in the following manner: (a) ICEX confirms the terms of securities trades (confirmation); (b) ISD calculates and records the mutual obligations of market participants for the exchange of securities and money (clearing) and carries out the final transfer of securities (delivery); (c) the Central Bank executes the final transfer of funds (payment), through its RTGS system, based on payment orders calculated by ISD; (d) ISD handles custody/safekeeping of the securities.

The Central Bank's role and policy for payment and settlement

The Central Bank performs an important function in promoting reliable and efficient payment systems in Iceland. The same applies to the securities settlement system. This function may be divided into policy-making, regulatory, catalyst, operational and oversight roles. Furthermore, the Central Bank has representatives on the boards of the companies involved in implementation of payments and settlements, i.e. RB, FGM and the Iceland Stock Exchange (ICEX) holding company, which work towards furtherance of the Bank's objectives in this field.

The Central Bank has formulated a policy on these issues aimed at bringing the domestic payment and settlement systems into line with international requirements. In doing so it has taken particular account of an assessment made by the International Monetary Fund in 2000, on the extent to which Iceland's payment systems fulfil international standards. The reference standards are the Core Principles for Systemically Important Payment Systems and the CPSS/IOSCO recommendations for securities settlement systems. The ten Core Principles are presented in Box 7.

Initially, Iceland fulfilled only three of the Core Principles in the IMF's view, and a number of payment system issues needed to be substantially improved if full compliance were to be ensured. In particular it pinpointed the need to establish risk management within the systems, set clearer rules about their activities, inform participants about systemic risk, introduce settlement guarantees, draw up a contingency plan and increase system transparency.

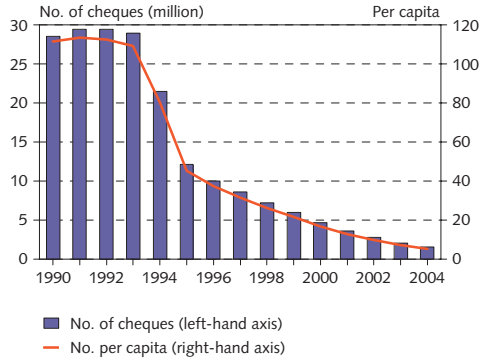
In 2001, the Central Bank constructed a plan for development of payment systems with the aim of bringing them into compliance with the Core Principles. The programme was implemented in 2002-2003 in close cooperation with FGM, RB and credit institutions. The IMF has been notified of the implementation of this plan.

This work has focused on clarifying the qualifications and responsibility of management and payment system participants. Settlement processes have been reviewed with respect to finality of payments and timing of settlements. Risk management has been strengthened by defining risks, making debt positions visible, monitoring of risks, restricting debt positions and requiring collateral for settlements. Arrangements for oversight, communication of information and contingency plans have also been reviewed.

Rules on the activities of payment systems

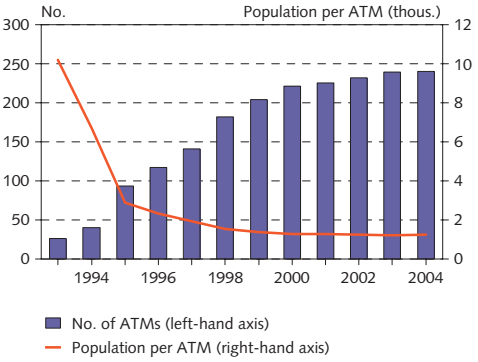
An important aspect of this work has been to set rules on the main elements of payment system operation. On October 20, 2003, the Central Bank adopted two new sets of Rules on payment systems: Rules No. 788/2003 on the Central Bank's Real-Time Gross Settlement System and Rules No. 789/2003 on Activities of Netting Systems. The Rules entered into force on November 1, 2003 and are based on Act No. 36/2001 on the Central Bank of Iceland. Furthermore, they expand on provisions in Act No. 90/1999 respecting the Security of Transfer Orders in Payment Systems, which in turn is based on Directive 98/26/EC of the European Parliament and of the

Chart 47
Volume of cheques 1990-2004



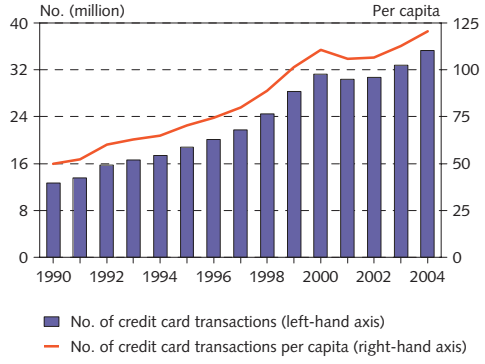
Source: Central Bank of Iceland.

Chart 48
ATMs 1993-2004



Source: Central Bank of Iceland.

Chart 49
Credit card transactions 1990-2004



Source: Central Bank of Iceland.

Box 7

The ten Core Principles for systemically important payment systems[1]

I. The system should have a well-founded legal basis under all relevant jurisdictions.

II. The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.

III. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.

IV.* The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.

V.* A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.

VI. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk.

VII. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.

VIII. The system should provide a means of making payments which is practical for its users and efficient for the economy.

IX. The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.

X. The system's governance arrangements should be effective, accountable and transparent.

1. Published by the Bank for International Settlements (BIS).

* Systems should seek to exceed the minima included in these two principles.

Council of 19 May 1998, on settlement finality in payment and securities settlement systems. The principle aim of the Rules is to promote financial stability and enhance legal certainty and transparency in system operations. 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.

Work was completed in 2003 on payment system software modifications to accommodate the provisions of the new Rules. At the end of the year the systems were designated and notified to the EFTA Surveillance Authority in accordance with Act No. 90/1999. The RTGS system and netting system have thereby been recognised as legitimate payment systems in Iceland and across the European Economic Area.

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 and efficient operation of the financial system.

At the beginning of 2004, collateral of all credit institutions 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 subsequently amounted to 16.6 b.kr. in the RTGS system and 3.2 b.kr. in the FGM netting system. At the beginning of 2005, collateral totalled 18.5 b.kr. in the RTGS system and 3.5 b.kr. in the FGM netting system.

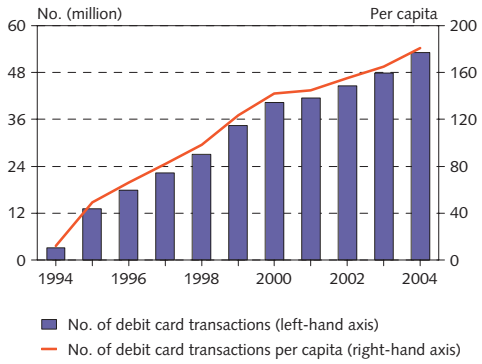
The Central Bank reviews collateral amounts on the basis of the highest daily settlement exposure that it has recorded for each credit institution. Credit institutions may not exceed the intraday overdraft limit that their collateral covers. They aim to arrange their cash management in such a way as 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 encouraging credit institutions to send only electronic payment orders to the RTGS system. If necessary, RTGS system participants can now raise their intraday overdraft limits provided that adequate additional collateral is pledged. As a result of close cooperation with credit institutions, they now exceed their RTGS intraday overdraft limits only under absolutely exceptional circumstances.

Hopefully this successful work will enable the RTGS system to be changed in September 2005 so that payments which would lead a credit institution to exceed its intraday overdraft limit are automatically rejected. Corresponding changes could conceivably be made to the netting system in the beginning of 2006.

Monitoring of RTGS system activities

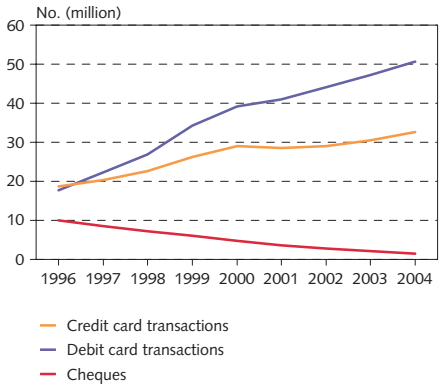
In April 2005 the Board of Governors of the Central Bank of Iceland set working procedures for monitoring of RTGS system activities. Monitoring of activities is classified as an operational task rather than system oversight. Day-to-day system monitoring is conducted by the Central Bank's Monetary Department in cooperation with its Financial Stability and Accounting departments. Monitoring shall be conducted in accordance with a preannounced and timed process specifying the

Chart 50
Debit card transactions 1994-2004



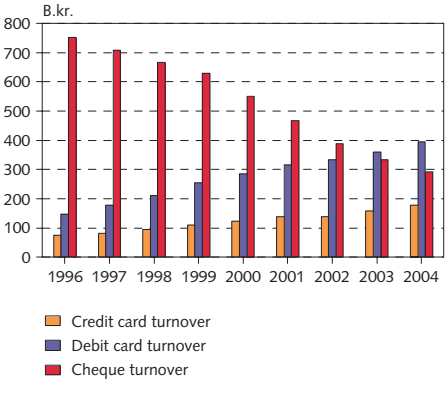
Source: Central Bank of Iceland.

Chart 51
Domestic cheque and payment card transactions 1996-2004



Source: Central Bank of Iceland.

Chart 52
Cheque and payment card turnover 1996-2004



Source: Central Bank of Iceland.

Box 8

Regular monitoring of RTGS system accounts

Start of day 8.30-8.45 hrs.

- Examine position of accounts
- Check whether the system was closed normally the previous day.
- Check whether any participant has a negative position.
- Check whether collateral meets intraday overdraft limits.
- Check for any technical problems.
- Check whether securities settlement is ready to be made.

Opening 8.45 hrs.

- Monitor that the system opens at the right time and that no technical hitches occur.

Securities settlement 8.45-9.00 hrs.

- Monitor the payment leg of securities transactions.
- Receive any requests for higher intraday overdrafts to complete securities settlement.
- Monitor completion of settlement by 9.00 hrs. (before opening for general settlements).
- Check participants' intraday overdraft position after settlement.

Opening for general settlements 9.00 hrs.

- Monitor that general settlement begins at correct time.
- Monitor intraday overdrafts after securities settlement.

Analysis of pending payment orders 9.00-10.00 hrs.

- Examine pending payment orders for trades by members of ICEX and the króna, FX and swap markets.
- Examine the possible effect that O/N loans and other trading with the Central Bank can have on the position of each account.

Daytime monitoring – 9.00-17.00 hrs.

- Monitor system functionality (including whether technical hitches develop).
- Monitor payment flows (including whether participants try to send high payments at the earliest instance and whether blockages are forming in the system due to a delayed payment).
- Monitor intraday overdrafts.
- Contact any participant whose account approaches the interday overdraft limit and point out the possibility of increasing it or taking an O/N loan.
- Grant higher intraday overdraft if necessary.
- Grant O/N loan if necessary.
- Monitor RB warning system.
- Monitor netting system functionality, netting account positions, transfers from RTGS accounts to netting accounts and preparation for netting system settlement at 17.00 hrs.

Netting system settlement 17.00 hrs.

- Examine preconditions for settlement (participants' netting account positions).
- Monitor integrity and timeliness of settlement.
- Check RTGS system positions after settlement.

Close 17.00 hrs.

- Monitor that system closes normally and at the correct time for all but interbank settlements.

Completion of settlement 17.00-17.30 hrs.

- Monitor that only interbank settlements are made at this time.
- Actively monitor interbank transfers and (if necessary) contact participants.
- Facilitate settlement being made as soon as possible after 17.00.
- Contact relevant party as soon as any problem arises.
- Monitor that debts are closed before 17.30 so that no party has a negative position at the end of the day.
- Grant higher intraday overdraft if necessary.
- Grant O/N loan if necessary.

Closure 17.30 hrs.

- Monitor closure of the system.
- Verify that all debt positions have been erased.
- Verify closure.

points to be examined. The main points of the monitoring process are described in Box 8. It shall be ensured that an employee is always on duty while the system is operational. All exceptional incidents that arise shall be precisely recorded in a timed log, along with the response to them. Notifications and communications shall be documented and measures taken to ascertain that the correct parties have received the relevant information promptly.

It is hoped that these procedures will enhance the soundness of RTGS system activities. Defining the points to be monitored within the day is likely to allow shortcomings in the operation of the system to be discovered earlier, enabling the timely communication of information and preparation of responses before the situation becomes critical.

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.

Operational risk may be defined as the risk of damage due to imperfections in systems for telecommunications, information, computing or payments, or due to flaws, errors or abuses in organisation, management, activities, communications or internal audit.

The Central Bank considers that management of operational risk in Icelandic payment systems needs careful consideration. This will need to include a review of the institutional framework for payment system operations. The structure of systems also needs to be reviewed with the aim of reducing the contagion risk between them. Clearly the Central Bank will need to cooperate closely on this task with the RB, which is largely responsible for system facility operations, the FGM and credit institutions.

Study of operational risk

In February 2004, the Board of Governors of the Central Bank of Iceland requested that the Central Bank of Sweden (Sveriges Riksbank) should conduct an objective study of operational risks in the Icelandic RTGS system. Experts from Sveriges Riksbank visited Iceland in October 2004 and January 2005 for an onsite pre-study and fact-finding about the environment, development and operation of the RTGS system. They made an in-depth study of information and viewpoints from the Central Bank, RB, commercial banks and FGM. Among other things, the Swedish consultants examined RB's legal position and management, Central Bank ownership of the RTGS, dissemination of information about RB risk analysis and the draft agreement between the Central Bank and RB on system operation.

The Swedish experts presented their findings to the Board of Governors at the beginning of April. Their assessment was that Core Principle VII on security and operational reliability is only partly observed. The high degree of integration between systems in the RB environment was identified as the main reason. While such integration makes the systems efficient, it also creates risks, in the experts' view. Other shortcomings were found in testing of system changes, the lack of a comprehensive description of the RTGS system, contingency plans for settlements and the unclear division of tasks between RB and the Central Bank.

In the experts' view, the legal position of RB, and the Central Bank's responsibility and role with respect to it, need clarification. It is important to separate the RTGS system from other systems to preclude operational and contagion risks. Rules and routines need to be established for system management and operation. Locks should be introduced as soon as possible for negotiated intraday overdrafts in the system and liquidity-saving tools should be introduced. The fee structure should be reviewed. Finally, the Central Bank is urged to take on greater responsibility for the RTGS system and become more active in its development and management.

The Central Bank will carefully consider the analysis and proposals made in the report and hopes that this will provide an important contribution towards formulating a policy and action plan aimed at ensuring the sound operation of the system in cooperation with RB, credit institutions and FGM.

Operation of the RTGS system

Although the Central Bank is formally responsible for the RTGS system, its operation is largely handled by RB. Consequently, RB needs to be constantly aware of operational risks and have the expertise to recognise them. Transparency needs to be enhanced in system functionality and operations, risk measurement and testing, communication of information and contingency plans.

The Central Bank is the owner of the RTGS system. It is responsible for strategic decisions on system functionality, operation and development, including whether it is operated by the Central Bank or whether the Bank negotiates with a third party to handle part

or all of its operation. Under the current setup, RB's role is primarily to serve as a system operator under mandate from the Central Bank.

A consultative committee on system operation needs to be set up, with participation by the Central Bank and RB. Its role would be to exchange information and views on operational security, efficiency and other issues that may emerge in system operations.

Awareness and knowledge of operational risks are preconditions for the sound operation of the RTGS system. In cooperation with the Central Bank, RB needs to acquire and disseminate knowledge of risk factors in payment systems to its management and employees, especially regarding operational risks, and develop procedures for measuring and managing them. System operations must clearly aim to fulfil international standards for operational security and reliability, in particular Core Principle VII of the CPSIPS.

Efforts are needed to make the RTGS system more independent from other RB systems, to minimise potential contagion effects and operational risks. A comprehensive system description must be compiled including system rules, security policy, institutional and management responsibility and communication between parties involved in its activities, as well as documents and charts describing system operations and functionality, the main technical modules and procedures for exchange of information. The functionality of individual aspects of system operations need to be stress-tested, along with tests of new resources to be installed. A documented contingency plan must be developed detailing responses to operational disturbances. In this respect, a desirable target would be to enable normal system operation to resume no later than two hours after a disruption occurs. A contingency group also needs to be established and contingency exercises arranged.

It is aimed to conclude shortly a formal agreement between the Central Bank and RB on operation of the RTGS system, stating principles that can be elaborated to incorporate changeable scenarios.

Financial stability and Central Bank tasks

Since the financial system operates as a channel for capital and risk-spreading in the economy, its efficient and reliable functioning is vital. To create the most effective conditions for financial system operation, the government has established a general legislative framework and pursues responsible economic policies. It has also assigned separate tasks to the Central Bank and Financial Supervisory Authority (FME) in order to contribute to the soundness of the financial system. Broadly speaking, the Central Bank is assigned the tasks of promoting the efficiency and safety of the financial system as a whole and in a macroeconomic context – namely, financial stability. The FME has a regulatory role to ensure that financial activities conform with the law, regulations, rules and agreements, and a supervisory role. Both institutions contribute to financial stability and effective cooperation between them is essential. But what does financial stability mean and how does the Central Bank strive to perform its role in this area?

Financial stability

Recent Central Bank of Iceland financial stability reports have cited Andrew Crockett's definition that financial stability broadly hinges upon the stability of the key institutions and markets that make up the financial system. "This requires (1) that the key institutions in the financial system are stable, in that there is a high degree of confidence that they continue to meet their contractual obligations without interruption or outside assistance; and (2) that the key markets are stable, in that participants can confidently transact in them at prices that reflect the fundamental forces and do not vary substantially over short periods when there have been no changes in the fundamentals."[1] Crockett also points to the twin financial stability tasks of addressing both systemic risk and systemic resiliency. Risks will always be present, although they can be contained to a certain extent. Insofar as risks cannot be avoided, financial stability tasks must concentrate on strengthening systemic resilience.

No single definition of financial stability has gained international acceptance. Research in this field is rapidly evolving, as can be seen from the increasing amount of literature on the topic, and a number of different approaches are possible. Economists, for example, emphasise the distinctive character of the financial markets, including the prevalence of asymmetric information. George A. Akerlof, Michael Spence and Joseph E. Stiglitz earned the Nobel Prize in 2001 for their analysis of markets with asymmetric information, which is vital for an understanding of financial markets and the roots of financial crises. Asymmetric information leads to adverse selection and moral hazard. Moreover, information is not only asymmetric but also imperfect and expensive to acquire, and future uncertainties will always exist.

In accordance with this economic approach, until recently financial stability was generally defined in terms of its antitheses, i.e. instability or crises. Financial crises have a long history and they have been more common than is generally thought. The most immediate

1. Crockett, Andrew (1997), Why is Financial Stability a Goal of Public Policy?, in *Maintaining Financial Stability in a Global Economy*, a Symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming.

examples for Iceland are the banking and currency crises that struck neighbouring countries Finland, Norway and Sweden after 1990.[2] Shocks resulted in a large-scale official bailout and the partial nationalisation of the banks. The direct cost to the public sector caused by the banking crisis in Finland was equivalent to 8-10% of GDP, and in Norway and Sweden it amounted to 4-5%. In the US, the savings bank crisis in the 1980s cost the equivalent of 5-7% of GDP. In many instances state bailouts have been even greater, over and above a substantial negative impact on economic growth. More recent examples that may be cited include the crises in Asia and Russia, the US hedge fund crisis of autumn 1998, liquidity problems among important economies such as Argentina and asset bubbles.

A financial crisis is the most serious form that financial instability can take. Market failures of this kind have serious consequences, as the above examples show, but so do instabilities that do not actually trigger a crisis. Instabilities heighten uncertainties, hamper the efficiency of the financial system and can subdue investment and economic growth. Every participant in the financial system weighs up the gains and the risks and looks after its own interests, without adequate provision for the interests of the whole. Financial stability therefore has many of the features of a public good. Individual participants do not strive to ensure systemic stability, but rather have an incentive to act as free riders, even though it is in the common interest to safeguard the overall stability of the financial system. Financial crises or instability are a social problem just like pollution, for example, and just as costly.[3]

Increasing efforts have been made to define financial stability directly rather than in terms of what it is not. The International Monetary Fund recently published an interesting paper by Garry J. Schinasi[4] which includes an overview of definitions or descriptions of financial stability by a selected group of officials, central banks and academics. Schinasi proposes his own working definition, taking the approach that it is better "to define financial stability rather than its absence, in part because this is likely to be the more useful 'policy' objective".

Schinasi presents a number of key principles for defining financial stability. In short, this definition needs to be a broad concept; imply not only that finance adequately fulfils its role in allocating resources and risks but also that the systems of payment throughout the economy function smoothly; relate to the ability of the financial system to limit, contain and deal with the emergence of imbalances before they constitute a threat to itself or economic processes; be couched in terms of the potential consequences for the real economy; and be based on the principle that financial stability be thought of as

2. See e.g. Ingves, Stefan (2002), *The Nordic Banking Crisis from an International Perspective*, Speech at a Seminar on Financial Crisis, Oslo, September 2002, www@imf.org.
3. Haldane, Andrew (2005), A framework for financial stability, *Central Banking*, February 2005.
4. Schinasi, Garry J. (2004), Defining Financial Stability, *Working Paper 04/187*, IMF.

occurring along a continuum. On these assumptions, Schinasi presents his definition of financial stability: "A financial system is in a range of stability whenever it is capable of facilitating (rather than impeding) the performance of an economy, and of dissipating financial imbalances that arise endogenously or as a result of significant adverse and unanticipated events."

There will never be universal agreement on the best definition of financial stability and it is natural for such a definition to change in pace with theoretical advances. Any definition ought to be precise, highlight the key points of financial stability, be easy to understand and have practical application. An example is the following definition adopted by Norges Bank, the Central Bank of Norway: "Financial stability means that the financial system is robust to disturbances in the economy, so that it is able to mediate financing, carry out payments and redistribute risk in a satisfactory manner." The Central Bank of Iceland considers it useful to present such a statement of its own, which is printed on page 2 together with the Bank's aims in publishing *Financial Stability* report. Definitions of financial stability will change over the course of time, and so will the Central Bank's terms of reference. What is crucial is how the Central Bank formulates its policy in accordance with the role assigned to it, and how it works towards furthering it.

The Central Bank's role in financial stability

Act No. 36/2001 on the Central Bank of Iceland states that the Central Bank shall promote an efficient and safe financial system, including payment systems domestically and with foreign countries. Particular mention was made of this task in Article 4 of the Act since it is of major importance in central banking and reflects the growing focus given by most central banks to promoting financial soundness. The Central Bank of Iceland sets rules on the operation of interbank markets and certain prudential rules, may act as a lender of last resort and is accountable for its actions. Through its measures, publications, professional opinions, meetings and personal contact the Bank seeks to exert an influence on parties that can promote an efficient and sound financial system. Efforts include developing and strengthening financial system infrastructure and contingencies. These tasks were specifically incorporated into the Central Bank of Iceland's organisational structure at the beginning of 2001 with the establishment of a new department, the Financial Stability Department, which is directly assigned the task of furthering the Bank's financial stability objectives.

As authorised by law, the Central Bank of Iceland sets prudential regulations on the liquidity and foreign exchange balance of credit institutions. On the basis of its rules to this effect, the Bank compiles reports enabling it to monitor changes in the liquidity position of individual institutions and the system as a whole. The Bank also specifically monitors foreign borrowing by the banks, on the basis of information including loan maturities.

Among the special recourses made available to the Central Bank when the Act was passed by parliament in spring 2001 is a provision

permitting the Bank to act as a lender of last resort. This states that, in special circumstances when the Central Bank deems it necessary in order to protect the safety of the domestic financial system, the Bank may issue guarantees to credit institutions which are in liquidity difficulties or grant loans to them outside its regular business framework, on special terms and against other collateral than is customary or against other conditions laid down by the Bank. This means that, when the Bank regards its assistance as necessary in order to prevent fears about the safety of the financial system or the possibility that difficulties on the part of a single institution would lead to a run on the banks, it can intervene to carry that institution temporarily through the troubles it may have encountered. Particular mention was made that this applied to liquidity problems of individual institutions. This means that the Central Bank will not provide assistance in the form of special facilities to boost the capital position of institutions which run into difficulties.

Central Bank assistance may involve issuing guarantees to the relevant credit institutions or granting loans to them on special terms, conceivably against other collateral than the Bank customarily requires in its transactions with credit institutions, or imposing other conditions. The Bank could feasibly insist on reforms to the institution's activities as a condition for granting such assistance, for example a change of executive management.

It can prove difficult to distinguish between a liquidity problem and wider-reaching ones when an institution experiences difficulties of the kind addressed by this provision. The Central Bank will naturally engage in close cooperation and consultation with the FME on solving any such problems which may arise. The Central Bank has organised contingency plans and held exercises for meeting conditions in which it would probably need to provide special facilities.

Cross-border banking operations have become commonplace. Nordea Bank operates in four of the Nordic countries and farther afield – Kaupthing Bank operates in all five. In light of this development, the five Nordic central banks signed a Memorandum of Understanding (MoU) in Iceland in 2003 on financial crisis management. The MoU is applicable when a severe problem occurs in a bank which is domiciled in a Nordic country and has cross-border establishments in one or more other Nordic countries. Comparable work is in progress within the European Union.

Payment intermediation is an important element of all financial systems, i.e. the transfer of payments from the payer to the payee through the intermediacy of financial institutions and between the institutions themselves, and how these are settled. Although payment and settlement systems have a low public profile, it is vital for them to be technically effective and meet the utmost requirements for reliability and efficiency. Flaws in payment and settlement systems could have serious consequences, and furthermore efficient payment intermediation is one of the preconditions for smooth implementation of the Central Bank's monetary measures. The Central Bank plays a key role in Icelandic payment and settlement systems and has promoted extensive reforms with the aim of enhancing their soundness

and ensuring that they fulfil international standards for functionality and safety. The FME and the Central Bank have made an agreement on supervision and oversight of payment and settlement systems, specifying their respective duties.

The main tasks of the Central Bank and FME do not overlap except insofar as both institutions monitor and seek to promote the soundness of the Icelandic financial system in their respective ways. Cooperation between them is governed by an agreement which has been published on both institutions' websites. The specified main aims of the agreement include ensuring coordinated responses by the FME and Central Bank to conceivable systemic risks in financial markets.

Prudential regulation on liquidity ratio and foreign exchange balance

Prudential regulation in financial markets generally aims to contribute to secure and reliable practices in financial services. This is a fairly broad concept, including regulations on requirements for management practices in financial companies, their liquidity, consumer protection and effective internal and external supervision of their activities. In a broad sense prudential regulation also aims to contribute to financial and economic stability. By law, the Central Bank of Iceland sets rules for the liquidity ratio of credit institutions and for their foreign balance. Other prudential regulations in financial markets are either sanctioned by law, or set by a government minister or the Financial Supervisory Authority.[1] The main content of the rules on liquidity ratio and foreign balance is as follows:

Liquidity ratio

A credit institution's liquidity ratio may be defined as the ratio between its liquid claims and liquid liabilities. Rule No. 386 of May 29, 2002 (cf. Article 12 of the Central Bank Act No. 36/2001), stipulates the liquidity ratio of credit institutions. The regulation aims to ensure that credit institutions always have sufficient liquidity to meet foreseeable and conceivable payment liabilities over a specified period. They are obliged to submit a monthly report to the Central Bank containing data on which calculation of the liquidity ratio is based. Claims and liabilities included in these calculations are classified according to their nature, maturity and risk. The proportion of each category included in the calculation is also specified. For example, all of an institution's cash is considered a liquid claim, but only 5% of overdrafts. The ratio is calculated for four periods, namely liquidity within one month, from one and up to three months, from three and up to six months, and from six and up to twelve months. The ratios of claims to liabilities which fall due or can be liquidated within one month and three months shall not be lower than 1. If an institution fails to fulfil these requirements, the Rules provide for per diem penalties which are levied on the shortfall. Credit institutions must also report their liquidity ratios for other periods, although no specific levels are required to be maintained.

Foreign balance

A credit institution's foreign balance may be defined as the difference between its foreign-denominated assets and liabilities, on and off the balance sheet. Foreign balance is therefore a measurement of an institution's foreign exchange risk. Rule No. 387 of May 29, 2002 (cf. Article 13 of the Central Bank Act No. 36/2001), stipulates the

1. See the websites of the Ministry of Commerce (http://eng.idnadarraduneyti.is/laws-and-regulations/) and Financial Supervisory Authority (http://www.fme.is/fme-eng.nsf/Pages/index.html)

foreign balances of credit institutions and financial intermediaries. The regulation aims to limit foreign exchange risk by preventing the foreign balance from exceeding certain limits. Two types of limit are stipulated in this respect. One is exposure in individual currencies, which may neither be positive (long) nor negative (short) by more than the equivalent of 15% of equity according to the most recently published financial statements. An exception is made for the US dollar and euro, however, where the limit is 20%. The other limits apply to the total foreign exchange position in all currencies, calculated in domestic currency, which is the sum of positions in individual currencies and may neither be long nor short by more than 30% of equity according to the most recently published financial statements. Credit institutions are obliged to submit regular monthly reports on their foreign balances to the Central Bank. Credit institutions with a balance exceeding the above limits shall take immediate measures to adjust it, and it shall be brought inside the permissible limits within three business days. If an institution fails to correct its balance within this time limit, the rules provide for periodic penalty payments (per diem penalties).

Hallgrímur Ásgeirsson[1]

Deposit guarantees and investor compensation

One way to enhance the resilience of the financial system is to provide depositors and investors with minimum protection against losses that they may incur on account of insolvent deposit institutions or securities undertakings. In Iceland, this question is addressed by legislation passed on the basis of harmonised rules within the European Economic Area. The Act stipulates that the Depositors' and Investors' Guarantee Fund shall be operated with the aim of providing a minimum level of protection in this regard. The following article discusses the protection provided by the Depositors' and Investors' Guarantee Fund. It describes the laws and regulations in this area, the Fund's assets and investment of them, payments from it, the amount of covered claims and minimum levels of protection.

Harmonisation of rules in EEA law

The Depositors' and Investors' Guarantee Fund is subject to the provisions of Act No. 98/1999 on Deposit Guarantees and Investor-Compensation Scheme. This Act was passed to implement into Icelandic law Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes[2] and Directive 97/9/EC of the European Parliament and of the Council of 3 March 1997 on investor-compensation schemes.[3]

These directives formed part of measures to create an internal market for banking and securities services within the EU. Measures involved the establishment of a harmonised regulatory and supervisory framework aimed at enhancing the safety and soundness of financial services, protecting against systemic risk, increasing consumer protection and promoting an efficient and competitive financial market. Minimum harmonisation of regulations, mutual recognition of operating licences and surveillance by home country authorities enabled banks and investment firms to provide direct cross-border services in host countries or through branches or subsidiaries.

One area that was considered necessary to address was protection for depositors and investors. Member states applied different rules in this area which provided varying degrees of coverage. A number of questions arose concerning the legal position of depositors and investors who accept cross-border financial services. To contribute to the integration of markets for banking and financial services it was deemed necessary to harmonise certain fundamentals in the member states' divergent rules, and thus facilitate mutual recognition of companies' cross-border authorities.

Under the Directives, all credit institutions and investment firms are required to belong to an insurance scheme which is approved by the relevant authorities. Their branches in host countries come under

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1. The author is Deputy Director of the Central Bank of Iceland's Financial Stability Department. He is also Executive Manager of the Depositors' and Investors' Guarantee Fund.
2. OJ L 135, 31.5.1994, p. 5.
3. OJ L 84, 26.3.1997, p. 22.

the same scheme as in the home country. However, host-country schemes shall offer a branch from a member state, where coverage is lower, the option of topping up its coverage to the host-country level.

The Directives stipulate that the aggregate deposits of each depositor and securities held by an investor shall be covered up to a minimum of €20,000. This amount is set sufficiently high to ensure minimum consumer protection and contribute to financial stability, but not so high that management are tempted to take excessive risks in the faith that guarantees can be drawn upon in the event of insolvency (moral hazard). It also takes into account that financing the schemes should not be excessively costly for credit institutions and investment firms.[4]

Transposition into Icelandic law

Directive 94/19/EC on deposit-guarantee schemes was transposed into Icelandic law with the provisions of Chapter X of Act No. 113/1996, on Commercial Banks and Savings Banks. While this Act was in force two guarantee schemes were operational in Iceland, i.e. the Deposit Guarantee Fund of the Commercial Banks and the Deposit Guarantee Fund of the Savings Banks. The latter dated back to 1941. In 1985 it was converted into a self-owned co-insurance fund. The Deposit Guarantee Fund of the Commercial Banks was established the same year as an independent institution owned by the Icelandic state. Act No. 113/1996 largely harmonised the funds' operating authorisations, but their operational form and ownership remained different. Funds were authorised to operate in two independent departments, a deposit department to cover deposits and a loan department which could grant loans to support a deposit institution's operation. Only the Deposit Guarantee Fund of the Savings Banks made use of this authorisation.

In 1999 these provisions in Act No. 113/1996 were repealed and replaced by new legislation, i.e. Act No 98/1999 on Deposit Guarantees and Investor-Compensation Scheme. The new Act entailed a more accurate transposition of Directive 94/19/EC and furthermore transposed Directive 97/9/EC on investor-compensation schemes. The Deposit Guarantee Fund of the Commercial Banks and the Deposit Guarantee Fund of the Savings Banks were merged and an investor-compensation scheme was introduced. A single Depositors' and Investors' Guarantee Fund was thereby created, which was intended to protect depositors and customers of investment firms against their conceivable insolvency. As pointed out in the explanatory notes accompanying the bill which was passed as Act No. 98/1999, the main justifications for merging the funds were the close interlinking of banking and investment activities, the actuarial benefits of boosting the fund and spreading its risks, and lower operating costs.

Article 1 of Act No. 98/1999 states that its objective is to guarantee a minimum level of protection to depositors in commercial banks and savings banks, and to customers of companies engaging in

4. Key, Sydney J.: Deposit-Guarantee Directive. *Banking and EC Law Commentary*. Amsterdam Financial Series. Kluwer, 1994, pp. 7-66.

securities trading pursuant to law, in the event of difficulties of a given company in meeting its obligations to its customers. The Act is divided into seven Chapters. Chapter I specifies the objective of the law and the institution of the Fund, its membership, board of directors and executive manager, and annual general meeting. Chapter II contains provisions on contributions to the Fund's Deposit Department and Securities Department and revocation of licences. Chapter III deals with payments from the Fund, amounts payable, loans between Departments and subordinated loans. Foreign branches are addressed in Chapter IV. Chapter V contains clauses on the Fund's annual account and auditing, supervision, provision of information and exemption from taxation and bankruptcy law. It also authorises a ministerial regulation setting further provisions regarding the Fund's operations. Chapter VI authorises the establishment of a reserve fund in order to safeguard customers' interests and the financial security of commercial or savings banks. Finally, entry into force is stated in Chapter VII.

Establishment of the Fund

Act No. 98/1999 was passed by parliament on December 27, 1999 and entered into force on January 1, 2000. The Depositors' and Investors' Guarantee Fund was established on December 28, 1999. Its Articles of Association are from the same time. By law, its Articles of Association are subject to ministerial approval, following review and comment by the Financial Supervisory Authority. On February 21, 2000 the Minister of Commerce adopted Regulation No. 120/2000, on Deposit Guarantees and Investor-Compensation Scheme, subsequently amended by Regulation No. 864/2002.

The Depositors' and Investors' Guarantee Fund is a private foundation operating in two independent departments, the Deposit Department and the Securities Department, with separate finances and accounting. Neither department is responsible for the liabilities of the other. Besides its Deposit and Securities Departments, the Fund may operate a separate loan department with separate finances and accounting.

The Financial Supervisory Authority supervises that the operations of the Fund are in conformity with Act No. 98/1999, Regulation No. 120/2000 and the Fund's Articles of Association. Supervision is in other respects governed by Act No. 87/1998 on Official Supervision of Financial Operations.

The Fund is exempt from both income tax and wealth tax. It shall not be taken into receivership nor its assets attached for debt.

Commercial banks, savings banks, companies providing investment services, and other parties engaging in securities trading pursuant to law and established in Iceland, shall be members of the Fund. The same shall apply to any of their branches within the EEA and EFTA. Member companies shall not be liable for any commitments entered into by the Fund beyond their statutory contributions to it.

Payments to the Deposit Department

According to Article 6 of Act No. 98/1999 the minimum total assets of the Deposit Department shall be 1% of the average amount of

guaranteed deposits in commercial banks and savings banks during the preceding year. If the Fund's total assets fall short of this minimum, all commercial and savings banks shall, no later than March 1 each year, contribute to it an amount equivalent to 0.15% of their average of guaranteed deposits during the preceding year, cf., however, the 1% minimum limit. The clause on a 1% minimum originated in Act No. 113/1996, but no justification for this specific reference amount is made in the explanatory notes accompanying the bill that became Act No. 98/1999.

By comparison, arrangements for funding of deposit guarantees vary widely within the EU. Fourteen member states finance deposit-protection schemes *ex ante*. Five finance them *ex post*, i.e. payments are made to the fund when a liability towards deposit holders is formed. Six states have hybrid funding arrangements. In the *ex ante* states, highly divergent requirements are made regarding the coverage ratio.

If the total assets of the Deposit Department do not amount to the required minimum, all commercial and savings banks shall submit a declaration of liability undertaking to make a special contribution to the Department when it is obliged to refund deposits in any commercial or savings bank that is a member of the Fund. Each commercial or savings bank's declaration of liability shall extend to the same proportion of the amount required to make up the minimum as its proportion of the aggregate guaranteed deposits. However, demands for contributions to the Department based on declarations of liability shall not exceed the equivalent of one-tenth of the minimum total assets of the Fund.

When the above circumstances arise, commercial and savings banks are obliged to make payment to the Fund on demand. Payments to the Department are non-refundable.

Payments to the Securities Department

According to Article 7 of Act No. 98/1999 the total assets of the Securities Department of the Fund shall amount to a minimum of 100 m.kr. The explanatory notes to Act No. 98/1999 argue that this amount would be sufficient to ensure a minimum level of investor protection. Customers of investment firms are considered unlikely to incur serious losses from a bankruptcy, given the different nature of deposits and securities. Deposits are the mainstay of credit institutions' funding and appear in their balance sheets.[5] By contrast, investment firms do not procure funding with the securities that must be covered, so they do not appear on their balance sheets. Legislation on securities transactions obliges investment firms to ensure a clear separation of their customers' and their own assets. Investment firms could thus go bankrupt without their customers in securities transactions suffering any losses. Customers would lose their assets only in the event of a gross error or fraud. Finally, it is argued that while the likelihood of bankruptcy among investment firms is

5. It should be pointed out that funding of credit institutions has changed substantially since this bill was written.

impossible to assess, strong official supervision and strict legal requirements for capital adequacy and risk management should make it a very rare occurrence.

When the bill was drafted an actuarial estimate was made for the optimum size of the Securities Department based on the amounts held in custodianship by investment firms and the number of custody accounts. It was assumed that guaranteed securities to the value 200-210 b.kr. were under the custodianship or management of investment firms on behalf of their customers at the end of 1998. Of this figure, 70 b.kr. were in mutual funds and equity funds which to a large extent were in safekeeping with investment firms. Just over 100 b.kr. of institutional investors' capital was under investment funds' custodianship. A further 25 b.kr. was owned by almost two thousand private and legal entities other than institutional investors. The average amount under custodianship for private and legal entities other than institutional investors was 12.5 m.kr. The actuarial calculation for the optimum size of the Securities Department was roughly 100 m.kr., which was closely in line with ideas for similar funds in Denmark and Sweden. It was therefore not considered appropriate to tie up more funds in the Securities Department.[6]

Growth in private ownership of securities has clearly caused a substantial increase in the amount of guaranteed securities since the law was passed. This would justify a review of the statutory minimum assets of the Securities Department.

The Act stipulates that, if total assets fall short of the 100 m.kr. minimum, member companies shall contribute a total of 20 m.kr. annually to the Fund until it reaches the required minimum. Each member company shall contribute a minimum of 50,000 kr. The annual contribution, minus the minimum contribution, is divided into two equal parts, according to the member company's share during the preceding year in the aggregate amount of securities trading with customers who are covered, and also according to its share in the aggregate number of securities trading accounts held with member companies. If the total assets of the Department still do not amount to the required minimum, each member company shall submit a declaration of liability undertaking to make a special contribution to the Department when it is obliged to refund deposits or cash in any member company. The declaration of liability shall extend to the same proportion of the amount required to make up the minimum as its proportion of the first aggregate contributions of all member companies after it has become evident that the Department's total assets will not amount to the required minimum. However, claims for contributions to the Department based on declarations of liability shall not exceed the equivalent of one-fifth of the Fund's minimum total assets.

When the above circumstances arise, member companies shall make payment to the Fund upon demand. Contributions to the Department are non-refundable. Furthermore, the Board of Directors

6. According to the original bill, the Minister could decide the Securities Department's minimum asset level on the recommendation of the Fund's Board, but this provision was dropped in the course of the parliamentary debate.

of the Fund may purchase insurance from a recognised insurance company within the EEA as a safeguard against losses.

Assets of the Guarantee Fund

On its establishment in December 1999 the Guarantee Fund took over the assets and liabilities of the Deposit Guarantee Fund of the Commercial Banks and the Deposit Guarantee Fund of the Savings Banks. It began collecting annual contributions in 2000.

Table 1 shows the development of total assets of the Depositors' and Investors' Guarantee Fund until the end of 2004.

Table 1 Total assets of the Depositors' and Investors' Guarantee Fund at year-end 1999-2004

Thous. kr.	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*
Deposit Dept.	2,875,319	2,963,030	3,342,694	3,233,070	3,801,252	4,476,813
Securities Dept.	0	21,340	43,880	65,117	59,982	65,323
Total	2,875,319	2,984,370	3,386,574	3,298,187	3,861,234	4,542,136

Table 2 provides an overview of contributions to the Fund over the period 2000-2005. At the time of writing, collection on account of 2005 has not been completed. In 2000-2004 member companies contributed a total of 925,736 thousand kr. to the Fund, divided between 99,950 thousand kr. to the Securities Department and 825,786 thousand kr. to the Deposit Department.

Table 2 Contributions to the Guarantee Fund 2000-2005

Thous kr.	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*Total*
Deposit Dept.	0	0	0	366,415	459,371	506,498	1,332,284
Securities Dept.	20,000	20,000	20,000	20,000	19,950	20,000	119,950
Total	20,000	20,000	20,000	386,415	479,321	526,498	1,452,234

Chart 1 shows the development of net assets of the Deposit Department over the period 2000-2004 relative to the statutory minimum, i.e. 1% of average covered deposits. In 2002-2004, net assets fell well short of the statutory minimum and the outstanding amount had to be collected from member companies.

The main reason for the large amount that member companies have had to pay to the Deposit Department in recent years is year-on-year increases in covered deposits. Returns on investment of the Fund's assets have therefore been nowhere near sufficient to increase assets to the statutory minimum.

Chart 2 shows the development of average covered deposits and their annual rate of increase. In 2000 the average was 276 b.kr. and it has grown steadily since then. In 2004 it was 498 b.kr.

Chart 3 shows the development of the Securities Department's net assets over the period 2000-2004. Member companies made annual contributions of 20 m.kr. to the Department to meet the

Chart 1
Assets of the Deposit Department of the Guarantee Fund 2000-2004

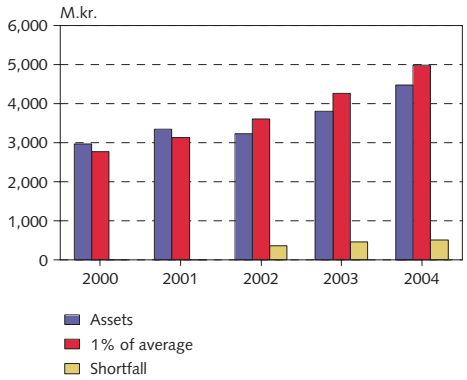
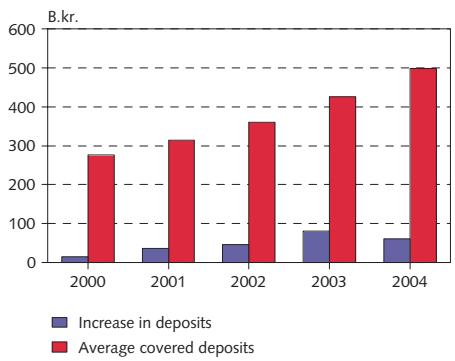
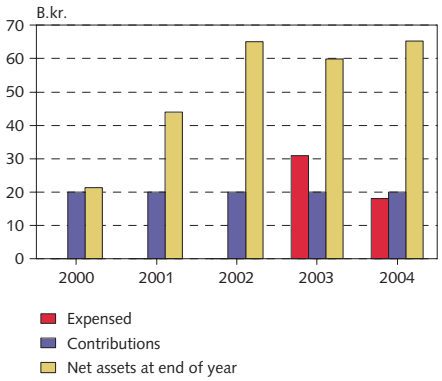


Chart 2
Development of covered deposits 2000-2004



statutory requirement for minimum net assets of 100 m.kr. In 2003-2004, however, a total of 49 m.kr. was expensed due to the bankruptcy of one member company.[7] For this reason, the Securities Department's net assets according to its annual accounts have still not reached the mandatory 100 m.kr. minimum. Further contributions will therefore need to be collected until the minimum is attained.

Chart 3
Assets of the Securities Department of the Guarantee Fund 2000-2004



Custodianship and investment of assets

In February 2001 the Guarantee Fund made agreements with Landsbréf hf. (now Landsbanki Íslands hf.) and Búnaðarbanki Íslands hf. (now Kaupþing banki hf.) on custody, investment and management of the Fund's resources.

The agreements aim to ensure that the Fund's assets will be well invested and safeguarded by applying systematic measures in line with its investment strategy. The Guarantee Fund may change its investment strategy as it deems necessary. The main principles of the investment strategy are outlined in Box 1.

Box 1

Main principles of the Guarantee Fund's investment strategy

- Custodians shall invest at least 85% of custodial funds in domestic or foreign Treasury bonds.
- Domestic Treasury bonds shall be in the range 30-75% of custodial funds.
- Foreign Treasury bonds shall be in the range 15-55% of custodial funds.
- Foreign equities may be in the range 0-15% of custodial funds.
- Foreign investment is confined to the EU, excluding Greece, and to the US, Canada, Norway, Japan, Australia and New Zealand.
- The Fund may invest in bond funds that mainly invest in Treasury bonds but contain listed corporate bonds, provided that the bonds' credit rating is no lower than AA.
- Investments in unlisted securities and domestic equities are not allowed.
- Restrictions apply to currency composition of foreign bonds. The use of currency derivatives is allowed, but only to reduce the Fund's risks.
- Speculative day trading with the Fund's assets is not allowed.

Custodians are obliged to keep the Fund's assets clearly separated from their own assets and those of other customers, so that the Fund's assets are never used to guarantee their liabilities. The Guarantee Fund pays custodians contractual commissions for services rendered. Commissions are divided into administration fees, transaction fees and performance-related commissions. Administration fees comprise both fixed general fees and fees for handling investment in funds. Table 3 shows total custodianship commissions from March 26, 2001 to December 31, 2004 and as a percentage of the average value of custodial assets.

7. Discussed in more detail below.

Table 3 Custodial commissions 2001-2004

M.kr.	*2001*	*2002*	*2003*	*2004*	*Total*
Administration and transaction fees	10.9	26.3	27.3	30.1	94.6
Performance-related commissions	1.5	0	0.7	14.5	16.7
Total	12.4	26.3	28	44.6	111.3
% of average asset value	0.4	0.8	0.8	1.1	0.8

Source: Economic Forecasts and Consulting, 2005.

The Fund's Board has set a long-term target of achieving an average annual nominal return of no less than 7.0%. Furthermore, the Board has set a benchmark for average nominal return on its custody portfolio. The benchmark used is the weighted average of selected securities indices and should reflect market returns in light of the investment strategy. At the end of 2004 the annualised benchmark was 6.6% from the time that custodianship began. However, the average annualised nominal return on the Fund's portfolio from the beginning has been only 5.5% before capital income tax. Table 4 and Chart 4 show the increase in value of total custodial assets due to returns on investments, before and after administration and transaction fees, relative to the Fund's benchmarks.

Chart 4
Increase in value of total custodial assets 2001-2004

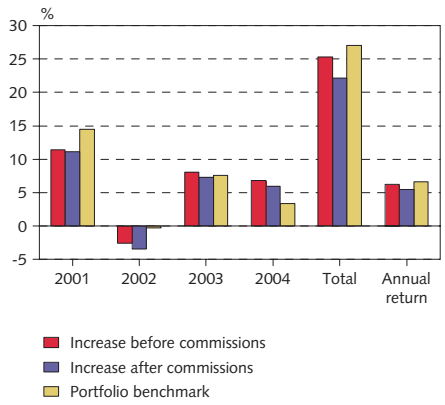


Table 4 Increase in value of total custodial assets before capital income tax 2001-2004

%	*2001*	*2002*	*2003*	*2004*	*Total*	*Annual return*
Increase before commissions	11.4	-2.6	8.1	6.8	25.3	6.2
Increase after commissions	11.1	-3.4	7.3	6.0	22.1	5.5
Portfolio benchmark	14.5	-0.3	7.6	3.4	27.0	6.6

Source: Economic Forecasts and Consulting, 2005.

Payments from the Fund

If, in the opinion of the Financial Supervisory Authority, a member company is unable to render payment of the amount of deposits, securities or cash that a customer demands it to refund or return in accordance with applicable terms, the Fund is obliged, under Article 9 of the Act, to pay him the amount of his deposit from the Deposit Department and the value of his securities and cash in connection with securities trading from the Securities Department. The obligation of the Fund to render payment also takes effect if the estate of a member company is subjected to insolvency proceedings in accordance with the Act on Commercial Banks and Savings Banks and the Act on Securities Trading. The opinion of the Financial Supervisory Authority shall have been made available no later than three weeks after it first obtains confirmation that the relevant member company has not rendered payment to its customer or accounted for his securities in accordance with its obligations.

The term "deposit" refers to any credit balance resulting from financial deposits or transfers in normal banking transactions which a commercial bank or savings bank is obliged to refund by law or under

contractual terms. However, this guarantee does not extend to bonds, bills of exchange or other claims issued by a commercial bank or savings bank in the form of securities. "Securities" refers to securities that are either in the custody or under the administration or supervision of a member company which is obliged to refund or return them by law or under contractual terms. This refers to asset management, e.g. custodianship or safekeeping of funds, which in particular takes place in investment firms. Securities also embrace book entry securities, cf. Act No. 131/1997 on Electronic Registration of Title to Securities. "Cash" refers to cash deposited by an investor with a member company in connection with securities trading, i.e. when it does not honour its obligations regarding the delivery of securities that have been bought. This means claims that have arisen in connection with securities brokerage by credit institutions and investment firms.

Deposits, securities and cash owned by member companies, their parent and subsidiary companies for their own account, or connected with convictions for money-laundering, are not covered by the guarantee.

Regulation No. 120/2000 contains further provisions on procedures in connection with claims for payment from the Fund. It stipulates, *inter alia*, that before the Fund pays out a claim, it shall ascertain whether the claim was met in part or in full by a member company, and deduct such payments in full from its own payment. If the Fund makes a payment, it will take over the claimant's claims against the member company or bankruptcy estate concerned. If a deposit account or a customer's securities transactions account is a joint account, the share of each claimant shall be applied in calculation of the payment.

No claims have been made on the Deposit Department since the Guarantee Fund was established. In November 2001, however, one of the Fund's members was taken into official receivership. The company is still in receivership and it is not known when this process will be completed. Claims were made against the Securities Department amounting to 226.5 m.kr. Some claims were withdrawn and the majority of others were rejected. It is considered likely that the Securities Department will incur some outlays relating to this matter. A prudential provision of 49 m.kr. has been expensed in connection with this event and is entered in the Department's balance sheet as a liability.

Payment amounts

Act No. 98/1999 does not impose a general ceiling on the amounts to be paid by the Guarantee Fund in connection with deposits, securities or cash that it covers. This means that the Fund must pay guaranteed claims in full to the extent that its assets cover them.

Nonetheless, the law allows for the possibility that the assets of the Department in question are insufficient to pay the total amount of guaranteed deposits, securities or cash in a member company. In such an event the payment from each Department shall be divided between claimants so that the total claim of each one, up to a maximum of 1.7 m.kr., shall be paid in full, and amounts in excess of that

figure shall be paid proportionally to the extent that each Department's assets cover them. This amount is pegged to the exchange rate of the euro (EUR) based on the buying price on January 5, 1999 (i.e. 81.39 kr.). That day, the amount corresponded to €20,887.

Should the total assets of the Fund prove insufficient to cover the amount of guaranteed claims, the Board of Directors is entitled by law to take a loan to pay claimants, if it sees compelling reasons to do so. The Board may furthermore authorise loans of up to 50 m.kr. between the Deposit Department and Securities Department, to be repaid within 36 months. No further payment can then be claimed from the Fund even if a claimant's loss has not been paid in full.

A comparison can be made between minimum coverage in Iceland and the protection provided in the other Nordic countries and in the EU. The minimum amounts stipulated in Act No. 98/1999 are based on the provisions of Directive 94/19/EC on deposit-guarantee schemes and Directive 97/9/EC on investor-compensation schemes, which specify a minimum of €20,000. Iceland's statutory coverage is somewhat higher than required under the Directives, i.e. it corresponds to €20,887. Table 5 presents a comparison of minimum coverage in the Nordic countries, which shows that it is somewhat lower in Iceland than elsewhere.

The minimum coverage in Iceland is, however, well in line with that in the EU countries, apart from Denmark, the UK, France and Italy, which have a considerably higher coverage. A common insurance amount is €20,000.

As mentioned above, Act No. 98/1999 makes a minimum requirement that the Department's net assets shall be 1% of average covered deposits. In 2004, average covered deposits amounted to 498 b.kr. By law, the Guarantee Fund is obliged only to have disposable funds corresponding to 1% of this amount, i.e. 4.98 b.kr.

Table 5 Minimum coverage in the Nordic countries[1]

	Kr.	*EUR*	*Domestic currency*	
Norway	18,725,000	228,912	NOK	2,000,000
Denmark	3,294,000	40,268	DKK	300,000
Sweden	2,289,000	27,986	SEK	250,000
Finland	2,045,000	25,000	EUR	25,000
Iceland	1,708,000	20,887	ISK	1,708,000

1. Amounts in Icelandic krónur (kr.) are based on the euro exchange rate on January 17, 2005, rounded to the nearest thousand.

Source: Norges Bank: *Innskuddsikring i Norden og virkninger av å filialisere Nordea*, March 26, 2004, p. 3.

No analysis has been made of the proportion of the Deposit Department's net assets to the amount of deposits below the minimum coverage level. However, the number of accounts with deposits below and beyond the minimum coverage on December 31, 2004 has been examined.[8] At that time a total of 1,117,208 savings

8. Parliamentary reply by the Minister of Commerce to a question by Jóhanna Sigurðardóttir, MP, on deposit protection, parliamentary session 2004-2005, parliamentary record 780-421, February 10, 2005, pp. 2-3.

accounts and cheque accounts, which were registered against private individuals' ID numbers and processed by the Banks' Data Centre (RB), had deposits in them. The average deposit amount in these accounts was 249,837 kr. A total of 1,009,784 accounts in commercial banks and savings banks with a deposit below the minimum coverage (then 1,740,000 kr.) were registered against 580,669 ID numbers (each ID number could have up to four accounts).[9]

However, these figures have limited informational value, since the total amount of deposits below the minimum coverage level was not examined. Taking the average deposit (249,837 kr.) and multiplying it by the number of ID numbers against which accounts below the minimum coverage were registered (580,669) gives a total guaranteed deposit amount of 145 b.kr. This figure is clearly an overestimate, since the average used in these calculations is too high, i.e. it includes accounts with a deposit above the minimum coverage. Nonetheless, it does indicate that the Guarantee Fund's net assets would not be anywhere near sufficient to provide minimum protection for all deposit holders and investors if they had to be tapped at one and the same time.

This finding should not be surprising. It is in line with the underlying assumption in the current law that it is unlikely that such a serious situation would develop in the financial system that 1% of the average of insured deposits would not suffice to provide minimum coverage.

However, a more likely scenario might be that the insolvency of one credit institution would drain the Deposit Department's net assets so severely that it would be unable to meet the subsequent risk of insolvency among the others. This is particularly relevant given that the current law imposes no limit on the amount of payments from the Deposit Department for as long as its assets last. Thus it cannot be ruled out that the insolvency of one credit institution would seriously deplete the Department's assets, even down to a level that could prevent it from providing other depositors in other credit institutions with the minimum statutory protection. Such a situation could also prove burdensome for the remaining member institutions, which would need to make substantial increases in their contributions to the Fund.

Conclusion

The objective of the Depositors' and Investors' Guarantee Fund is to guarantee a minimum level of protection to depositors in commercial banks and savings banks, and to customers of companies engaging in securities trading pursuant to law, in the event of insolvency. This minimum coverage enhances the resilience of the financial system against conceivable setbacks in the activities of individual member companies. Thus the Fund has an important role to perform in contributing to a sound and secure financial system in Iceland. However, it

9. At the same time, there were 31,879 ID numbers against which deposits were registered for an amount equal to or higher than the minimum coverage (then 1,740,000 kr. or more) in commercial banks and savings banks. There were 107,424 accounts registered against these ID numbers.

is clear that the Fund is not intended to provide full protection for all depositors and investors against losses that may result from setbacks in the financial system. Nor would it be desirable to assign such a function to the Fund, because this could increase moral hazard and relax requirements for efficient and effective financial supervision. It is important for the Guarantee Fund always to have a legal and operating framework that enables it to perform the limited function assigned to it as effectively as possible. To this end, a review is needed of the Fund's capability, in the ever-changing financial environment, to provide depositors and investors with the minimum coverage stipulated by the legislation governing it, if member companies in Iceland were to encounter difficulties in their operations.

References

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