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Iceland: Financial System Stability Assessment—Update

This update to the Financial System Stability Assessment on Iceland was prepared by a staff team of the International Monetary Fund and the World Bank as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on August 19, 2008 and provided background information to the staff report on the 2008 Article IV consultation discussions with Iceland, which was discussed by the Executive Board on September 10, 2008, **prior to the recent Board discussion on a Stand-By Arrangement for Iceland**. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Iceland or the Executive Board of the IMF.

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Financial System Stability Assessment Update

Prepared by the Monetary and Capital Markets and European Departments

Approved by Jaime Caruana and Ajai Chopra

August 19, 2008

The Financial Sector Assessment Program (FSAP) Update for Iceland was conducted in Reykjavik in June 2008. The FSAP team comprised David S. Hoelscher (team leader, IMF), Joerg Genner, Peter Hayward (both consultants), Iryna Ivaschenko (IMF), Paul Kupiec, Felice Marlor (both consultants), and Luisa Zanforlin (IMF).

During the mission, staff met with Mr. Ingimundur Fridriksson, a Governor of the Central Bank of Iceland, the Director General of the Financial Supervisory Authority (FME), and senior officials from both institutions. In addition, it met with representatives of private financial institutions and the stock exchange. The main findings include:

- The banking system's reported financial indicators are above minimum regulatory requirements.
- Notwithstanding current strengths, vulnerabilities are high and increasing, arising from funding and credit risks and limited access to wholesale credit markets.
- The banks are adopting steps to address these vulnerabilities, including diversification of funding and selected asset sales, but it remains uncertain if these adjustments are sufficient in today's financial environment.
- In light of concerns about market access, stronger capital and liquidity buffers appear appropriate.
- The supervisory framework has been improved and the supervisor's capacity to supervise banks has been enhanced, but the bank resolution framework should be strengthened.
- Given the significant size of cross-border activities, continued and strengthened cooperation with host supervisors is warranted.

FSAPs are designed to assess the stability of the financial system as a whole and not that of individual institutions. They have been developed to help countries identify and remedy weaknesses in their financial sector structure, thereby enhancing their resilience to macroeconomic shocks and cross-border contagion. FSAPs do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.

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GLOSSARY

CAR	Capital Adequacy Ratio
CBI	Central Bank of Iceland
CDS	Credit Default Swaps
CPSS	Committee on Payment and Settlement Systems
DvP	Delivery versus Payment
FME	Financial Supervisory Authority
FSAP	Financial Sector Assessment Program
HHF	Housing Finance Fund (Iceland Housing Authority)
ICAAP	International Capital Adequacy Assessment Process
ICEX	Iceland Stock Exchange Index
IOSCO	International Organization of Securities Commissions
ISD	Icelandic Securities Depository
ISK	Icelandic króna
LGD	Loss given default
PD	Probability of default
ROA	Return on assets
ROE	Return on equity
RTGS	Real-Time Gross Settlement
TARGET	Trans-European Automated Real-time Gross Express Transfer system
UCITS	Undertakings for Collective Investments in Transferable Securities

EXECUTIVE SUMMARY AND OVERALL ASSESSMENT

The Icelandic financial system is dominated by three large banking groups (Glitnir, Kaupthing, and Landsbanki). In 2004, these banks began a period of expansion, with consolidated assets of the banks expanding from 100 percent of Icelandic GDP in 2004 to almost 900 percent at end-2007. By end-2007, over 50 percent of the banks' assets were held abroad in branches and subsidiaries, principally in the Nordic countries and the U.K. This expansion was funded in global wholesale markets, allowing banks to overcome domestic resource constraints but doubling their foreign debt. This dependence on wholesale market funding became a source of concern at the onset of the global turbulence in mid-2007, and caused banks' counterparty risk, as evidenced by CDS spreads, to increase sharply.

The banking system's reported financial indicators are above minimum regulatory requirements and stress tests suggest that the system is resilient. Bank capital averaged almost 13 percent of risk-weighted assets between 2003 and 2006, dropped to 12 percent in 2007 and to approximately 11 percent in the first half of 2008, but remain above the 8 percent minimum. Liquidity ratios are likewise above minimum levels.

Notwithstanding the positive indicators, vulnerabilities are high and increasing, reflecting the deteriorating financial environment.¹ Global international liquidity has declined significantly in the past 12 months confronting the banks with unforeseen challenges. In particular:

- Liquidity ratios, while high, now depend more than before on access to central banks' liquidity facilities because of the turmoil in global markets and any reduction in such access would require changes in the banks liquidity management strategy.
- Capital levels, while above minimum levels, are below the average of the last five years and may not provide adequate buffers, in light of the deterioration in the global environment and market uncertainties about the strength of the banks.
- Foreign debt maturities of the financial sector are relatively short, concentrated in the period 2008–2010, and create funding risks as outstanding facilities mature in a context of limited market funding and perceived counterparty risk.

¹ The mission took place in the context of increasing market turmoil and was narrowly focused on the financial conditions of the banks. For that reason, several issues, including the deposit insurance framework and the foreign exchange position of the economy were not examined.

- Asset quality concerns are increasing in the light of a likely slowdown in economic growth in Iceland and host countries, higher inflation, exchange rate pressure, together with a restricted supply of credit. While reported NPLs are low, they are rising and banks are exposed to market risk through their securities holdings and collateralized lending.

Banks are implementing measures to manage these risks and bolster market confidence. They have diversified their funding sources, increasing the proportion of retail deposits. The banks are paying down market debt by reducing their loan book, selling noncore assets, and withdrawing from marginal markets. As a result, banks estimate that they have sufficient liquidity to meet debt service requirements through early 2009 and expect to be able to meet obligations maturing over the medium term. Recently, the CBI has provided much of banks' domestic liquidity needs. Banks have been augmenting their liquidity through issuance of covered bonds, sales of additional noncore assets, raising private capital, and the structuring of loans into securities eligible for repo operations with major central banks. Some borrowing is possible from foreign banks, albeit at a much higher cost.

It remains uncertain whether these adjustments will be sufficient in today's difficult financial environment. Funding and asset quality pressures are likely to remain at least until 2010 and the ability of the banks to mobilize sufficient funds will be tested, especially given lower profitability, declining asset quality, uncertainties about the quality of capital and the financial strength of shareholders, the complex ownership structure, and the perception of substantial related party lending. Moreover, the situation is delicate because a financial misstep in any one bank could lead the market to penalize all Icelandic banks.

The CBI has become the principal provider of market liquidity in the domestic market, exposing the CBI to potential risks. CBI collateralized lending to commercial banks increased steadily since 2006 and the institution now is the primary provider of liquidity to the banks. As a result, CBI holdings of bank securities reached 370 percent of capital by early 2007. While the CBI was responding appropriately to the liquidity needs of the financial system, this policy may undermine other macroeconomic objectives and exposes the CBI to possible losses and may generate a need for future recapitalization.

The supervisory framework has been strengthened and the FME's capacity to supervise banks enhanced. All issues raised by the 2003 BCP assessment have been addressed. Prudential laws and regulations have been updated and the FME, in collaboration with the CBI, has increased its emphasis on liquidity management and contingency planning, extending its scope to cover the foreign activities of the banking groups. More consistent contact among supervisory authorities in host countries would enhance these efforts.

Both the CBI and the FME conduct stress tests that indicate the banking system is resilient but the intensity of shocks should be strengthened. Published but mild shocks are supplemented with more severe shocks. Under their most stressed scenarios, the banking system remains above regulatory capital minimums. It was recommended, however, that stress tests be conducted that (i) assume continued disruption in global markets; (ii) envision a sharper deterioration in credit quality; and (iii) consider the joint impact of market declines on the collateralized credit portfolio and bank balance sheets.

Although policy options are limited in the near term, steps need to be taken to mitigate risks and strengthen market confidence. These steps should focus on boosting financial buffers, improving contingency plans, and enhancing transparency.

- Options for the banks include (i) increasing capital positions to meet the expected deterioration in asset quality; (ii) further diversification of their funding base; (iii) enhancing liquidity in both local and foreign currency; and (iv) refocusing activities and further reducing noncore assets. If these efforts are insufficient, banks' more aggressive downsizing may become necessary.
- Options for the authorities include (i) enhanced monitoring to ensure that both capital and liquidity buffers are adequate; (ii) ensuring that loan provisioning is adequately forward looking; (iii) development of contingency plans in the event of further serious market disruption as well as the strengthening of the crisis management framework; (iv) introduction of a special problem bank resolution regime that includes tools not currently available; and (v) enhanced cooperation between home and host supervisors (including further development of emergency lending protocols and problem bank resolution options). As investor confidence in the stability of the financial sector is critical, the authorities should also seek to mitigate investor concerns about the extent of related-party lending and shareholder strength.

Box 1. Key Policy Recommendations to Address Market Uncertainties**Strengthening banks' financial conditions**

1. Given the challenges of operating in an adverse financial environment, increase capital adequacy ratios to historical levels and evaluate the need for additional increases in the context of the ICAAP review process.
2. Strengthen the quality and sources of bank capital, by identifying and reducing possibilities of excessive exposure to shareholders, and, where necessary, attracting new shareholders.
3. Evaluate banks' liquidity plans using scenario analyses of future cash flows and banks' ability to sell securities in an illiquid market.
4. Monitor credit quality, taking remedial actions as warranted, such as establishing reserves for future credit losses.
5. Develop contingency plans for resolving funding limitations by bank and by currency.

Enhancing transparency

6. Given market concerns, require greater disclosure in financial statements identifying and reducing cross holdings, related-party lending, and concentration in lending.
7. Address market concerns about the size of the large banks by (i) ensuring banks have strong capital not reliant on borrowing as a source; (ii) making ownership structure more transparent; and (iii) increasing liquidity buffers.

Supervision and cross-border cooperation

8. The FME should examine carefully the extent to which the size of banks' balance sheets is appropriate given risk management, operational controls, and systemic vulnerabilities.
9. Establish a "college" or fora for home/host supervisors for each bank to enhance cooperation and coordination of home/host supervision.
10. Strengthen existing crisis management arrangements, including provisions for information exchange and contingency plans for banking distress.
11. Establish a bank bankruptcy regime that strengthens the remedial action and enhances the tools for bank resolution.

I. SYSTEMIC RISK EXPOSURES

A. Macroeconomic Risks

1. **The Icelandic economy is undergoing a difficult transition.** The domestically driven, foreign-funded boom lifted the real output by over 25 percent during 2003–2007, the biggest increase among industrialized economies. However, the long boom also resulted in large macroeconomic imbalances, highly indebted private sector balance sheets, and high dependence on foreign financing.² As external liquidity constraints tightened and market sentiment soured, Iceland's banks and currency have come under significant pressure, and the overheated economy is showing signs of cooling.

2. **Economic activity is expected to slow significantly from very high levels.** Real GDP growth is projected to come to a standstill in 2008 and contract by 2 percent in 2009, led by a retrenchment in domestic demand. Inflation is expected to remain above target well beyond 2008, reflecting the recent króna depreciation, deteriorating expectations, and global inflationary pressures. The current account deficit is expected to narrow. The public debt is minimal, but the fiscal position is set to deteriorate sharply in the near term.

3. **The uncertainties around the outlook are considerable, with risks firmly on the downside, dominated by external considerations.** External liquidity risks remain a key concern, given the high foreign debt of the private sector (chiefly related to the banking system). If capital outflows continue, the króna could depreciate further, leading to tighter domestic credit conditions. Risks related to inflation, house and equity prices, private sector indebtedness, and foreign currency exposures are substantial.

B. Household and Corporate Debt Levels

Corporate debt

4. **In recent years, corporate balance sheets expanded through debt issues,** largely financing acquisitions abroad by Icelandic companies. As a result, leverage of companies increased substantially. Debt of nonfinancial corporations exceeded 300 percent of GDP in 2007. Domestic banks financed about two-thirds of such debt, 70 percent of which in foreign currency. While mostly financing foreign investments, a growing share of

Corporate Debt
Selected Countries, 2007
(in percent of GDP)

Iceland	308
Euro area 1/	77
U.K. 2/	278
USA	73

1/ Latest data is for 2005.

2/ Financial liabilities.

² Iceland's gross external indebtedness reached 550 percent of GDP by the end-2007 (of which 462 percent of GDP was due to the banking sector). Moreover, over 60 percent of the debt was short term (with 98 percent of it on account of banks).

foreign currency denominated debt is owed by companies with no overseas operations.

Bank Lending to Resident Companies
(eop, in percent of total, unless noted otherwise)

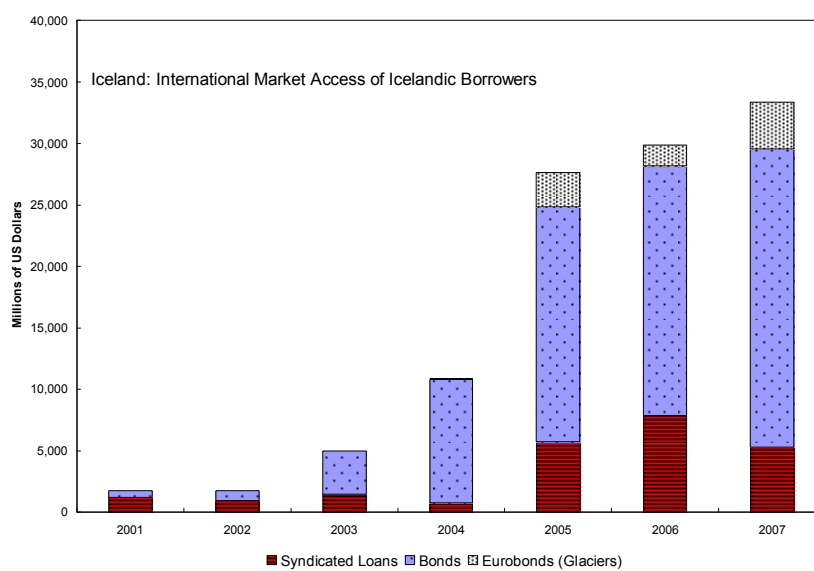
Nonfinancial Companies	2008				
	March 1/	2007	2006	2005	2004
Total lending to companies, mn ISK	1,404,243	1,318,896	1,006,80	756,214	795,722
<i>of which, in percent of total</i>					
Overdrafts	6.4	6.8	9.6	10.7	10.3
Unindexed bonds	7.1	9.1	6.2	9.5	13.9
Indexed bonds	12.4	15.6	21.0	24.8	16.9
FX-linked bonds	69.6	64.7	60.2	52.5	57.0
Leasing contracts	1.7	1.4	1.4	1.7	1.6
FX-linked overdrafts					
	2.5	1.9	1.3	0.4	0.0
as percent of GDP	108	102	83	71	83

Source: Central Bank of Iceland.

1/ Figures for 2008 are percentages of 2007 GDP.

5. **Bank international bond issuance** has been a major factor in the increase of foreign debt, together with, although to a lesser extent, corporate syndicated loans (Figure 1). The three largest banks were the most active bond issuers. Corporate syndicated loans increased fivefold between 2003 and 2006 to close to US\$8 billion (50 percent of GDP). In addition, foreign corporations issued króna-denominated international bonds in the domestic market. Such issues (Glaciers), are swapped into euros by domestic banks, providing indirect international financing to domestic issuers (see Section II C).

Figure 1. International Market Access of Icelandic Borrowers



Source: CBI and Fund staff estimates.

Households

6. **Household debt increased sharply in recent years.** Household debt, predominantly in mortgages, reached 103 percent of GDP by 2007 (about 220 percent of disposable income), higher than other European countries and the United States. Some 80 percent of household debt is indexed and another 13 percent is denominated in foreign currencies. However, the high level of owner-occupied housing (90 percent) and relatively modest loan-to-value ratios partially mitigates such concerns. Moreover, the net asset position of households has strengthened in recent years.

II. STRENGTHS AND VULNERABILITIES OF THE FINANCIAL SYSTEM

7. **Iceland's financial system is large relative to the economy, with total financial sector assets amounting to over 12 times GDP at end-2007.** The system is dominated by deposit-taking institutions, representing almost 80 percent of total financial sector assets or 966 percent of GDP (Figure 2 and Table 1). The three large banks dominate the banking system, with total consolidated assets exceeding 900 percent of GDP. Institutional investors (pension funds, insurance companies, and mutual funds) make up the remaining 20 percent of financial sector assets.

8. **Iceland is a small open economy with a large export sector and extensive foreign exchange exposures.**³ Approximately 70 percent of bank lending to Icelandic corporates is denominated in foreign currency. Much of corporate foreign exchange risk is naturally hedged, as they are mainly engaged in foreign trade activities. Moreover, the internationally active banks have maintained long foreign exchange positions but are exposed to implicit credit risks. The pension funds are allowed to hold net exposures to foreign securities up to 60 percent of portfolios but actual exposures are significantly below the limits. The Housing Finance Fund has no foreign exchange exposure.

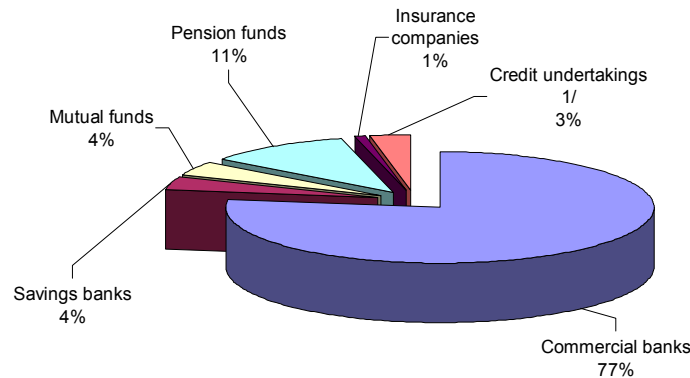
A. Banking System

9. **The rapid expansion of Iceland's banks over the last five years strengthened their financial position but exposed them to new risks and vulnerabilities.** Consolidated assets of the three main Icelandic banks (Glitnir, Kaupthing, and Landsbanki) increased from 100 percent of GDP in 2004 to 923 percent at end 2007, reflecting expansion overseas. By end-2007, almost 50 percent of the three banks' assets were held abroad, with 75 percent of their borrowing dependent on wholesale markets. The consolidated financial reports show their capitalization and liquidity ratios above regulatory requirements. However, the quality of bank capital is uncertain and a large share of the banks' liquidity is held in assets that,

³ An economy-wide assessment of foreign exchange balance sheet exposures was not possible given data limitations.

under current conditions, are primarily used for repos with central banks. Going forward, the banks would face even more serious challenges if the external environment continues to deteriorate.

Figure 2. Structure of the Financial System



1/ Credit Undertakings: Housing Financing Fund and other non-bank financial institutions

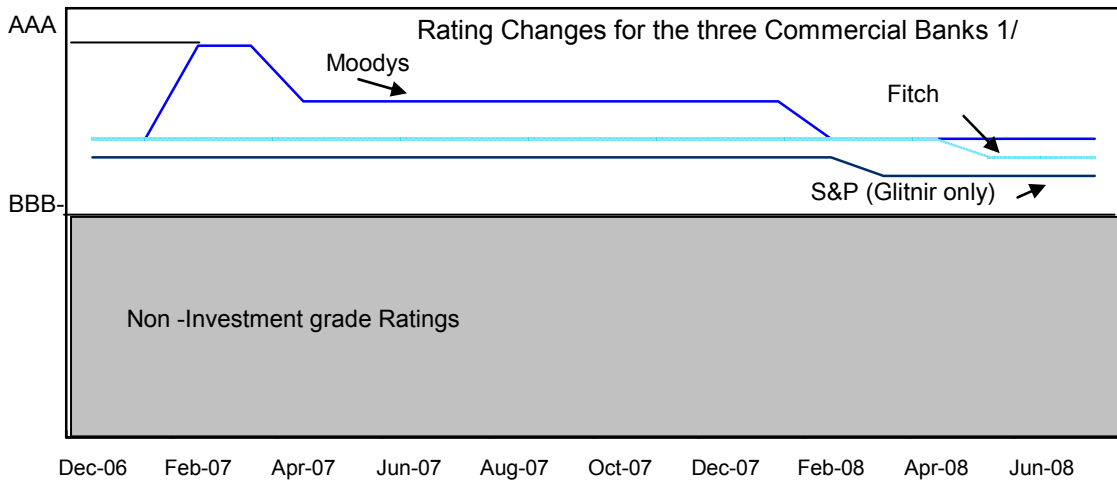
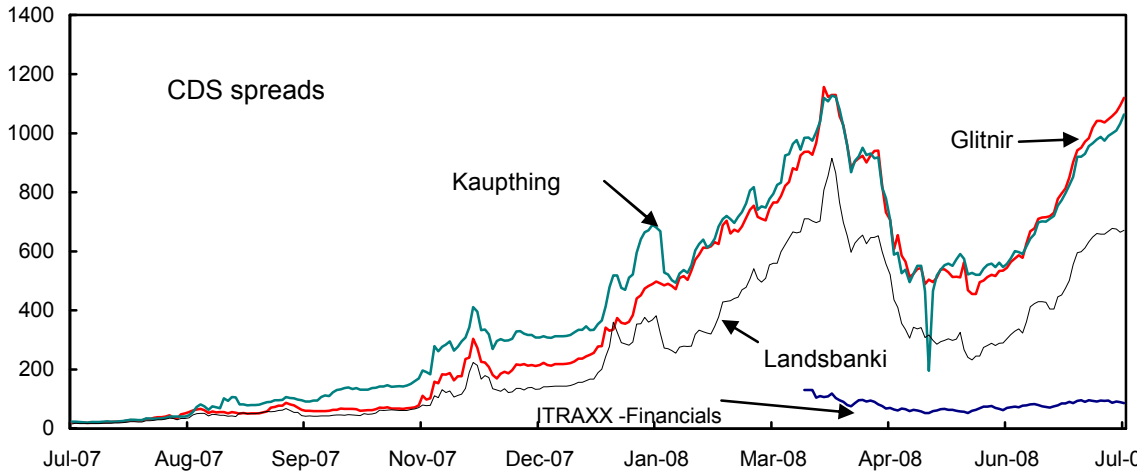
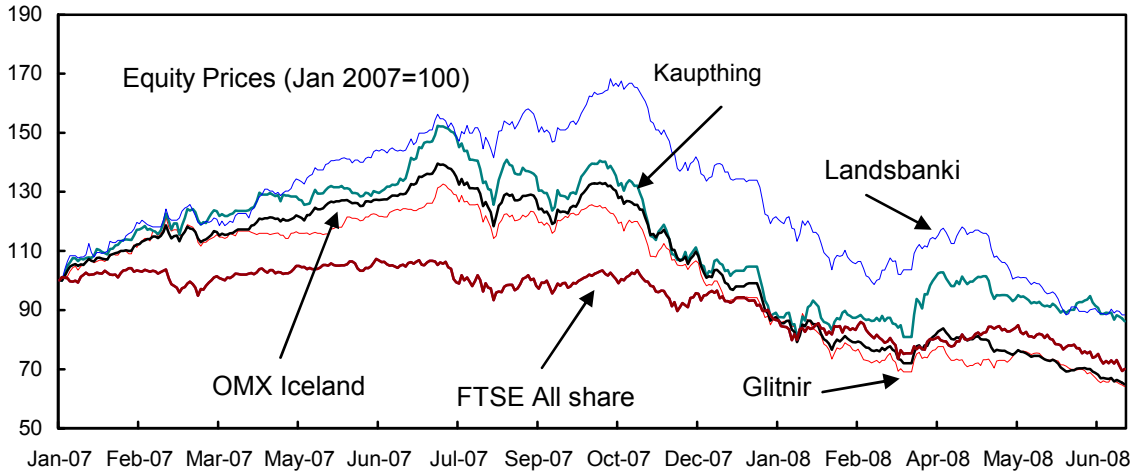
Source: CBI.

Recent turmoil in CDS markets

10. **The credit markets turmoil in mid-2007 coincided with a sharp increase in CDS spreads for Icelandic banks.** After peaking in April 2008, spreads on Icelandic banks remained above those of European peers during the spring recovery and peaked again in summer 2008, implying that funding costs for the banks have increased sharply (Figure 3).

11. **Many factors have contributed to the dynamics in CDS spreads.** The CDS market can be thin and thus exacerbate volatility. In addition, the credit market turmoil could be driven by several factors, including the króna volatility and the unwinding of the carry trades in the international markets. Furthermore, as turmoil in the markets increased, a number of CDO structures referencing Icelandic assets have been unwound. Such assets return on the balance sheets of financial institutions, creating a demand for hedges. Finally, the high dependence of the Icelandic financial sector on wholesale funding and the deteriorating domestic economic outlook, together with a concern about possible downgrades by rating agencies, have been a source of market concern leading to higher CDS spreads.

Figure 3. Market Indicators



Source: Bloomberg and staff estimates.

Bank performance

12. **Rapid credit growth and trading income have sustained profitability but limits to continued performance are appearing.** Bank profitability was high in both 2005 and 2006 (Figure 4). Return on equity (ROE), enhanced by trading income and profits from carry-trade activities, averaged 2.5 percent. In 2007, the ROE fell by almost half to 1.5 percent, as the volume of carry trades declined in the face of rising risk aversion. Trading income fell with the stock market, losses were registered from structured credit products, and additional provisions contributed to higher costs. Going forward, banks may face difficulties maintaining previous levels of profitability.

13. **Reported bank capital adequacy ratios are above regulatory requirements but the level of bank capital is below their five-year averages.** Bank capital averaged about 13 percent of risk-weighted assets between 2003 and 2006, falling to 12 percent in 2007. In the first and second quarters of 2008, capital ratios for the three large banks fell to 11.2 percent and 10.7 percent, respectively. While still above the 8 percent regulatory minimum, this capital level remains below their five-year average.

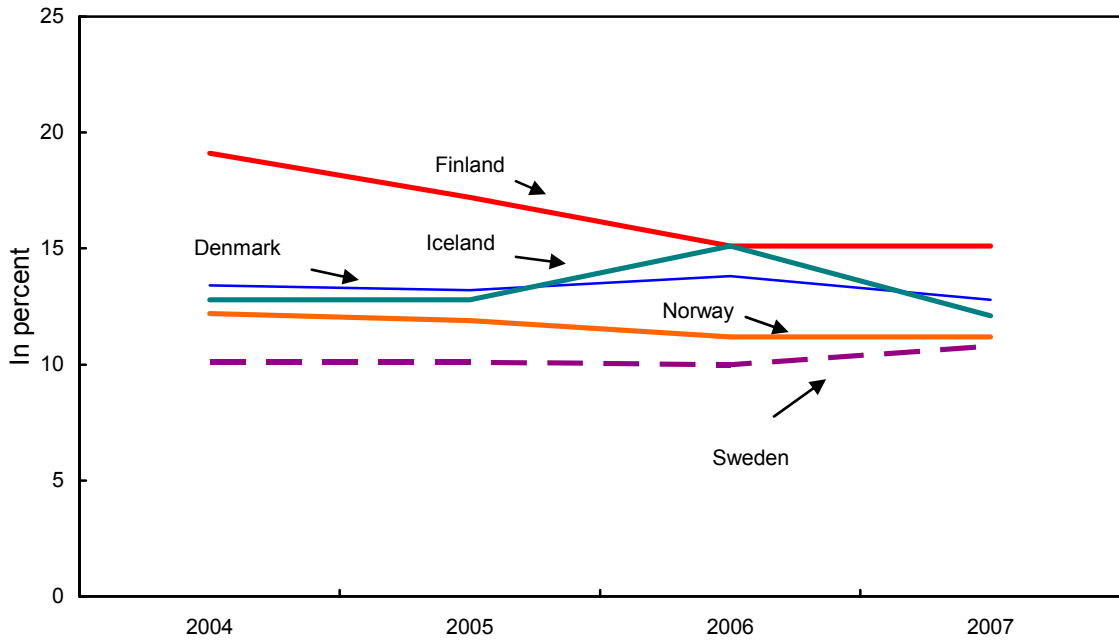
14. **Uncertainties about the quality of capital should be clarified if banks expect to tap market funding.** First, the controlling shares of bank capital are owned by highly indebted shareholders. Large shareholders are allowed to borrow as much as two-thirds of their invested capital, and the possibility of multiple gearing should be reviewed. Second, there is a high incidence of connected counterparties. Third, the ownership structure of the banks is complex, posing challenges to the identification of beneficial ownerships and the extent of borrowing from related parties. While these features may not undermine financial stability, investors' uncertainties can increase borrowing costs. Finally, Icelandic regulations allow Tier I capital to include up to 30 percent of hybrid capital compared with the Nordic limitation of 15 percent. Banks appear to use fully the authorized amount with holdings of hybrid capital in excess of the Tier I limit included in Tier II capital. While hybrid capital is a legitimate component for Tier I capital, it is generally perceived to be of lower quality than pure equity.

15. **The large banks protected themselves against currency fluctuations by maintaining long foreign exchange positions with derivatives.** The banks used derivatives to increase their long foreign exchange position from about 20 percent of capital at end-2006 to 58 percent and 72 percent in December 2007 and March 2008, respectively. In this way, banks' capital ratios remain unchanged when the króna appreciates or depreciates.⁴

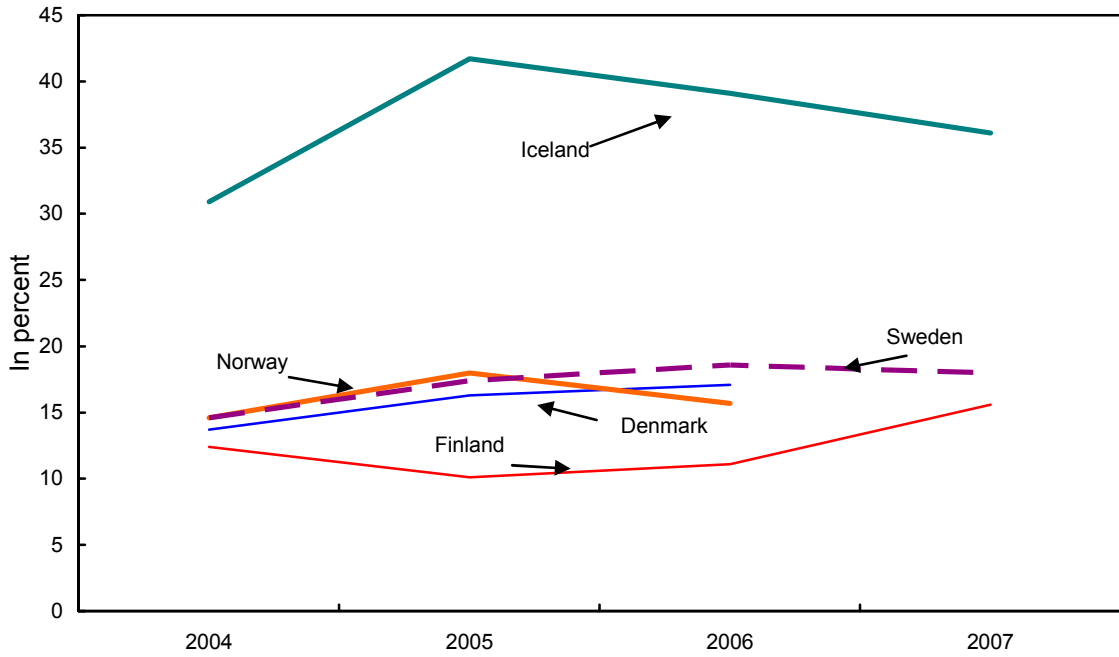
⁴ Because banks have sizeable asset exposures in foreign currency and their capital ratios are calculated in króna, a depreciation decreases reported capital ratios because of the increase the króna value of the banks' foreign currency denominated assets and liabilities.

Figure 4. Selected Financial Indicators

Capital Adequacy Ratios



Return on Equity



Source: CBI.

16. **Capital levels should be increased in order to restore market confidence.** While stress tests suggest that banks can withstand considerable financial shocks, concerns exist about the deteriorating global market, uncertainties about the strength of the banks, and the potential for significant contagion risk, as distress in any one bank could quickly spread to all banks and to the sovereign. Under such circumstances, current capital levels may not provide adequate buffers. Moreover, as market access improves, international lenders are likely to favor relatively more highly capitalized banks. The experience of recent months suggest that it would be prudent to raise capital levels to the average levels held during 2003–2006 and, in addition, supervisors should assess the adequacy of bank capital within the context of Pillar II determining additional charges for risks not adequately covered in Pillar I. Such charges could be evaluated in light of concerns about economic growth, the quality of capital, asset quality given the rapid increase in the loan book, and operational challenges in an international environment.

Credit risk

17. **While credit growth has been extremely high, credit quality has remained robust.** Credit growth averaged over 50 percent between 2004 and 2006 and then grew by almost 60 percent in 2007. Notwithstanding rapid credit growth, nonperforming loans increased only slightly from a low level of 0.5 percent of total loans in 2006 to 1.0 percent end-2007. The FME, concerned about asset quality, conducted a survey of credit risk in mid-2007 assessing risk management and internal controls of the largest credit institutions and found that about 90 percent of the loans were considered to be of good quality.

18. **A number of factors threaten the continued strength of the banks' credit portfolios.** The level of loan distress may increase as the Icelandic and regional economies slow, inflation accelerates, and the króna depreciates. In addition, the difficulties in identifying final ownership and related parties, while being addressed, continues to worry international investors. Four concerns stand out:

- The loan portfolio is either indexed to inflation or denominated in foreign currency. The servicing of these loans will become increasingly difficult if inflation accelerates and/or the króna depreciates, as up to one third of the domestic borrowers are unhedged. In addition, over half of total lending is abroad, where economic pressures are building and may be a challenge to monitor.⁵
- Icelandic banks have a relatively high concentration of exposure to large borrowers and connected parties, with the top 20 borrowers representing between 250 percent and 300 percent of Tier I capital.

⁵ Branches and subsidiaries are located in 21 countries. The largest operations are in the UK, Denmark, and Norway.

- A reported 6.5 percent of total lending is to related parties. While such lending has declined in recent years, it still poses a risk to some banks.
- Holding companies have proliferated during the last three years, with over 300 new companies created each year. Reportedly, these companies are established by small enterprises for tax purposes and pose no systemic risk; however, the opaque nature of their structure exacerbates uncertainties about loan concentration and related-party lending.

19. **Some indications of a slippage in credit quality have already appeared.** The flow of impaired assets has increased, almost doubling in some banks over a three-year period (Figure 5). Banks have increased loan loss provisioning and, recognizing the likelihood of future deterioration in asset quality; banks have provisioned prudently (Figure 5). In addition, collateral sales related to contractual margin calls increased sharply in 2008. Given these developments, the FME could require banks to establish reserves for future losses.⁶

20. **The strong credit performance to date reflects, in part, collateral policies of the banks and Iceland may be exchanging credit risk for market risk.** A significant portion of credit is extended on the basis of collateral. A fall in loan collateral values or loan payment difficulties triggers additional collateral calls or early prepayment (see Figure 5). While such instances occur with some frequency, they do not increase delinquency rates or NPLs. While this practice keeps reported NPLs low, it raises the potential for volatile equity price fluctuations forcing borrowers to sell securities, generating a vicious cycle of declining asset prices, margin calls and further equity price declines as borrowers liquidate their collateral. Thereby, banks' credit risk is shifted to market risk.

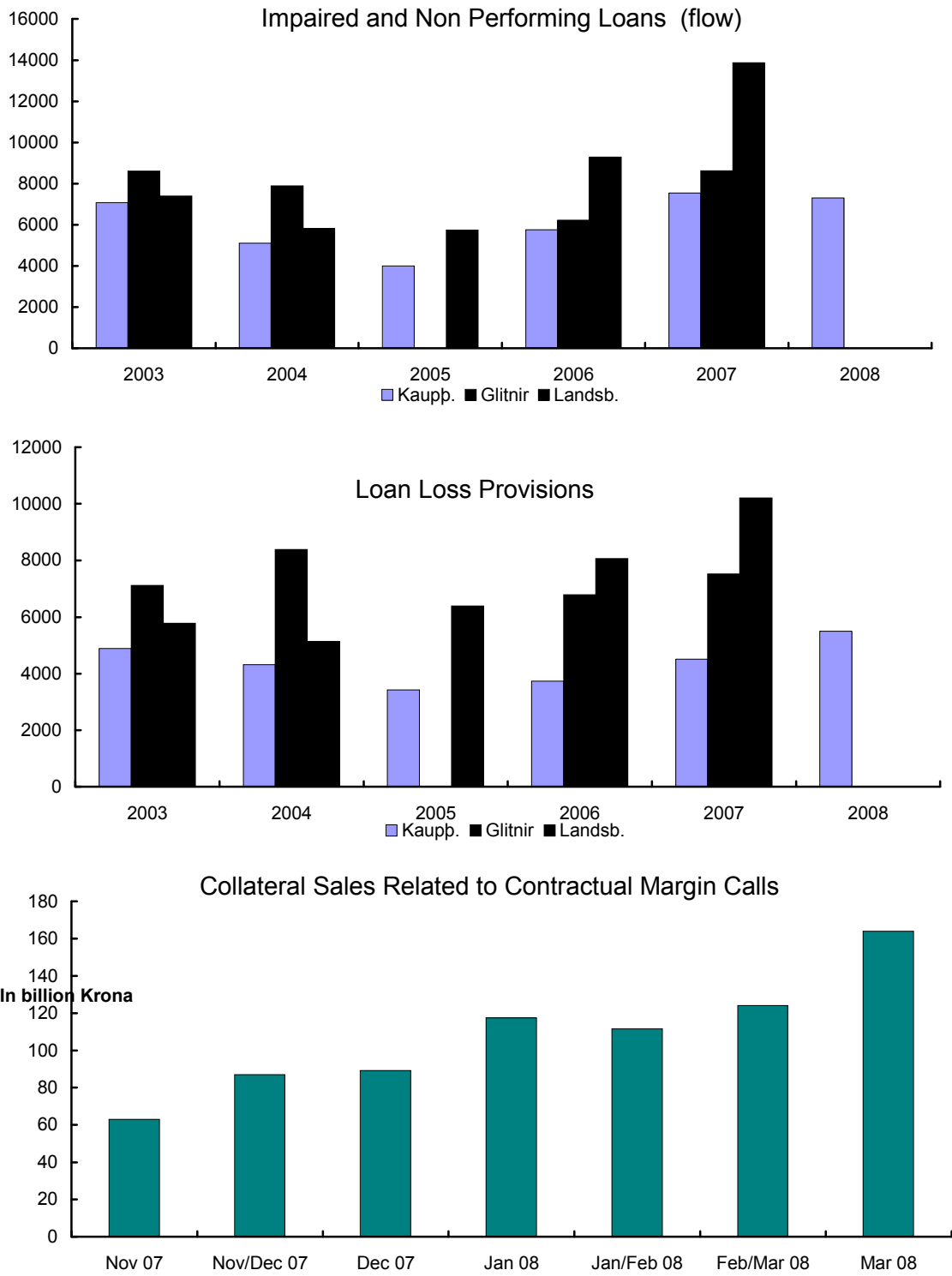
21. **The uncertain prospects for future credit quality point to the need for careful monitoring and, where warranted, rapid supervisory action.** Supervisors need to ensure that asset values are accurate, provisioning levels are adequate, and that collateral valuation is appropriate. In that context, the FME could encourage banks to adopt more forward-looking provisioning policies as protection against unforeseen risks.

Liquidity and funding risk

22. **Funding risk is a critical vulnerability for the Icelandic banks.** Debt repayments due for all three banks are large in 2009 and 2010 (Figure 6) and for one bank significant in the second half of 2008. While originally contracted amid abundant international liquidity, such rollovers are increasingly difficult. All three banks were able to access the market in the

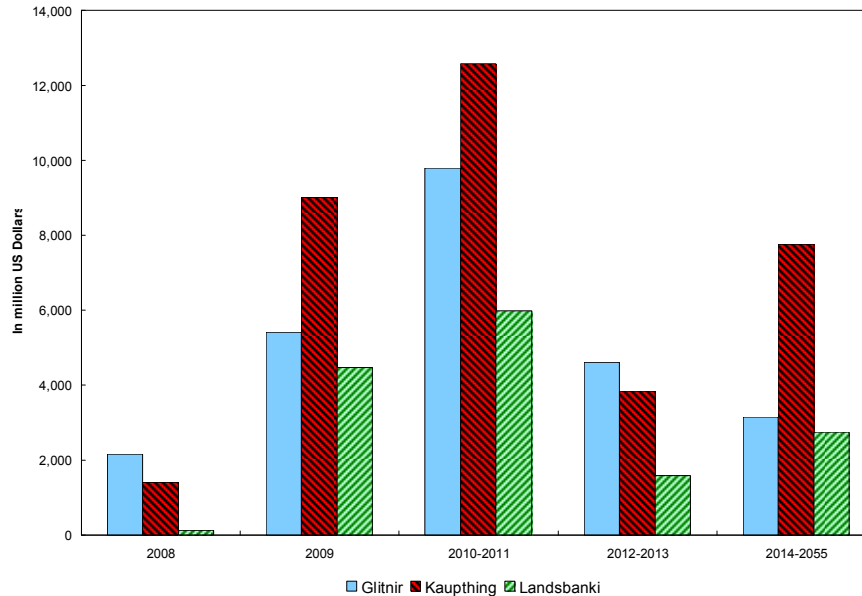
⁶ For prudential purposes, such reserves would be deducted from regulatory capital.

Figure 5. Asset Quality



Source: CBI.

Figure 6. Debt Distribution of Financial Institutions



Source: CBI.

first quarter of 2008, but subsequent issuance has been very limited, exposing the banks to funding risk.

23. **The banks have taken steps to manage this risk.** All three have diversified their funding structure, developing new deposit bases through the establishment of deposit-taking businesses abroad, particularly through the marketing of internet banking products. Both Kaupthing and Landsbanki have been particularly successful, with new deposits growing by 90 percent and 112 percent. Banks have also begun to contract and rationalize their asset structures, selling subsidiaries and reducing loan portfolios in noncore areas.

24. **Banks report adequate resources to meet debt obligations over the next 12 months and are preparing for a long closure of wholesale markets.** Given global conditions, however, bank liquidity has become highly dependent on central banks' liquidity facilities (see below). The banks are identifying alternative sources of funding, including covered bonds, and the securitization of their loan portfolios to make them eligible for repos with major central banks, including the ECB and the Bank of England. The FME should examine the robustness of instruments such as interbank deposits, committed lines, and structured securities under assumptions of limited global liquidity and develop alternative contingency plans for such developments.

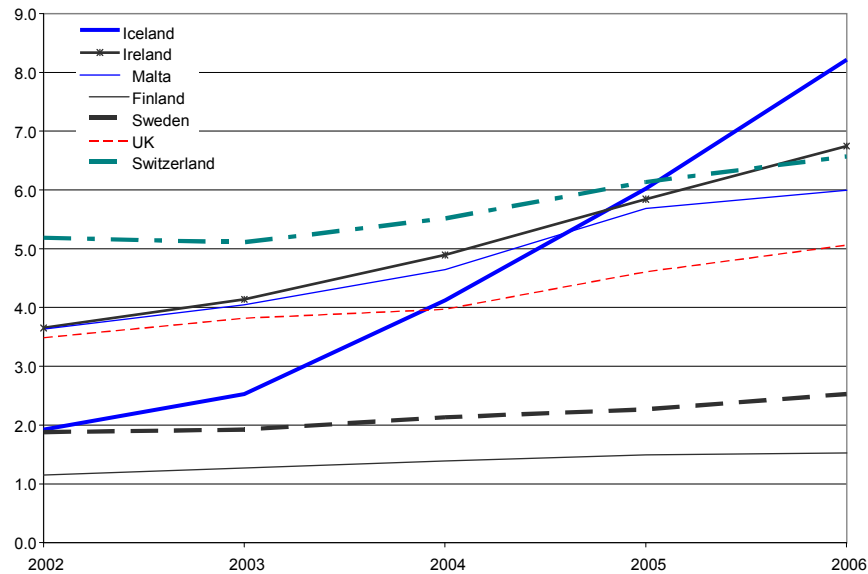
25. **The new sources of funding, while easing immediate liquidity constraints, may pose new challenges.** Deposits mobilized abroad may be more volatile, as foreign depositors may be relatively more responsive to interest rate changes, and may result in lower interest

margins. The securitization of banks' loan portfolios will provide temporary liquidity relief but may concentrate credit risk as the riskiest portions of the securitized assets, which are not eligible for repo operations, remain on the balance sheets.

Financial group size and complexity

26. **The rapid expansion of the banking groups between 2004 and 2006 posed significant challenges** (Figure 7). First, the expansion through acquisition imposed significant challenges for internal risk management and operational controls. Second, the large size aggravates concerns about funding and asset quality risks. Finally, responsibility for the management of any financial distress in a cross border institution would need the support of host country authorities and would have to be carefully coordinated among all the relevant supervisory authorities.

Figure 7. Bank Assets to GDP



Source: Bloomberg, ECB and FSA.

27. **There are limited options for quickly reducing the size of the banks.** In the face of immediate funding limitations, the banks have already begun limited divestment of assets. This process will need to continue but any abrupt effort of the banks to sell could be negatively interpreted, limiting not only support to all banks but affecting sovereign spreads as well. The immediate priority should be (i) ensuring that the banks have strong capital and liquidity buffers; (ii) improving corporate transparency; and (iii) attracting new investors to fortify capital levels. If such efforts prove to be unsuccessful, however, more aggressive steps at asset sales and debt repayment would become necessary.

Market risk

28. **Icelandic banks are a hybrid between commercial and investment banks, with relatively large exposures to market risk.** The portion of equity securities in total assets (15 percent) is high by regional standards, which includes direct equity holdings (approximately 2–3 percent of total assets). In addition, a significant share of loans is collateralized with equities, increasing banks exposure to market risk.⁷

29. **The direct foreign exchange risk seems to be hedged but underlying risks may remain.** Approximately 70 percent of lending to Icelandic corporates is denominated in foreign currency. While much of that foreign exchange risk may be naturally hedged, the banks remain exposed to implicit credit risks, as about one-third of foreign-denominated lending to households has no natural hedge. The large banks have relatively small open foreign exchange positions. Moreover, the internationally active banks have designed their foreign exchange positions to protect their regulatory capital from changes in the exchange rate by establishing long foreign exchange positions. Such hedges can offset a reduction in the foreign exchange value of a bank's equity attributable to a decline in the Icelandic króna.

B. Institutional Investors

30. **The main institutional investors in Iceland are the pension funds.** Their assets under management have grown to 122 percent of GDP at end-2007. Most of the increase is attributed to the growth of the pension system and to the increase in the stock exchange index of the past years.

Pension funds

31. **The pension fund industry in Iceland is very liquid.** The system includes the three basic pillars.⁸ Today, with 32 fully operational occupational pension funds, the 10 largest hold 80 percent of the system assets. Their actuarial positions appear solid and returns were high in the past four years. However, the significant fall in market values of domestic and foreign equities in their portfolios resulted in slightly negative returns in 2007.

⁷ Some banks, instead of making loans on the balance sheet to customers for the purchase of securities and taking such securities as collateral, achieve the same objective, while requiring less regulatory capital, by buying the securities and selling them forward to their customers. Only the net of the two transactions requires capital.

⁸ The three pillars of a pension system include a state-run pension system offering basic coverage, a funded system that recipients and employers pay into and voluntary private funded accounts.

32. **The pension funds use derivatives to acquire long positions in domestic real interest rates.** As a result, their portfolios are highly exposed to domestic inflation-linked securities. The long-term nature of the investment and the real return structure matches well their liability structure. Regulations allow net exposures to foreign securities to represent 60 percent of portfolios though actual exposures are significantly below the limits. About 10 percent of their assets is represented by mortgage lending to their contributing members, with, reportedly, low loan-to-value ratios and delinquencies.

Housing finance

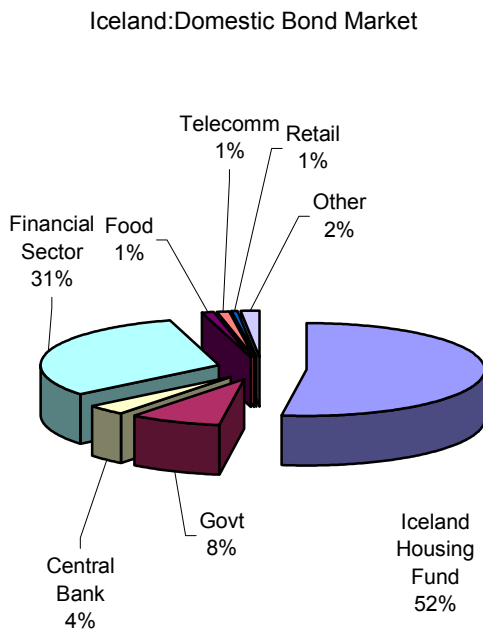
33. **Historically, the main institution providing housing finance was the Iceland Housing Authority or Housing Finance Fund (HFF).** The HFF is a government-owned entity with a government guarantee that can lend directly, subject to restrictions on loan amounts, funding itself through the issuance of bonds. The market share of HFF in mortgage lending declined since 2004, when favorable international funding conditions allowed domestic banks to enter the local mortgage market aggressively, lowering interest rates, increasing loan-to-value ratios, and allowing refinancing and takeout cash. As house prices soared, regulatory limits on HFF's admissible loan amounts became binding, limiting its activities. The loan quality of the HFF has remained strong as most loans are for owner-occupied homes with relatively low LTV ratios (60 percent).

34. **In June 2008, the government introduced new lending programs for the HFF to ease liquidity in the mortgage market.** New classes of loans allow the HFF to finance the banks' mortgage portfolios and origination activities, including rental housing, subject to the HFF mortgage lending requirements. Loan limits were increased to 80 percent of the purchase price of the property, subject to a loan limit of 20 ISK million. This framework will allow banks to obtain needed liquidity both from the publicly owned HFF and from the CBI. Credit risks therefore, become shared between the two public institutions.

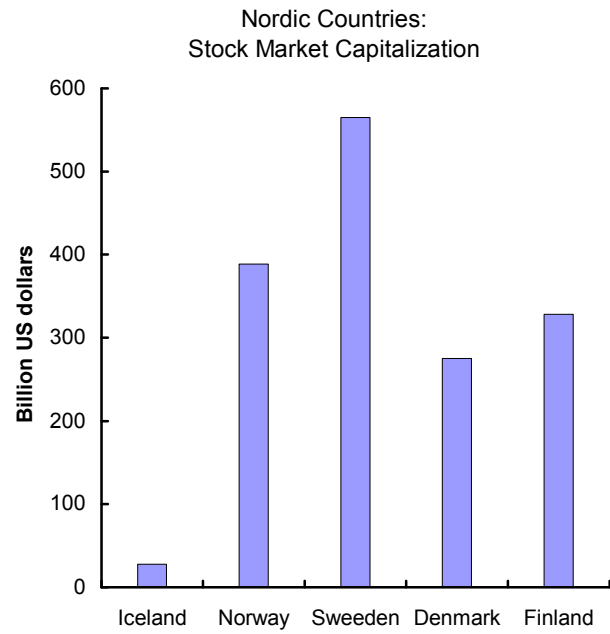
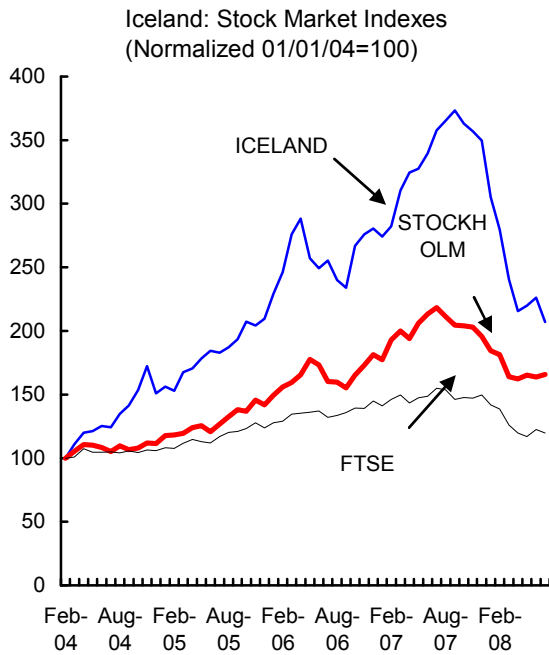
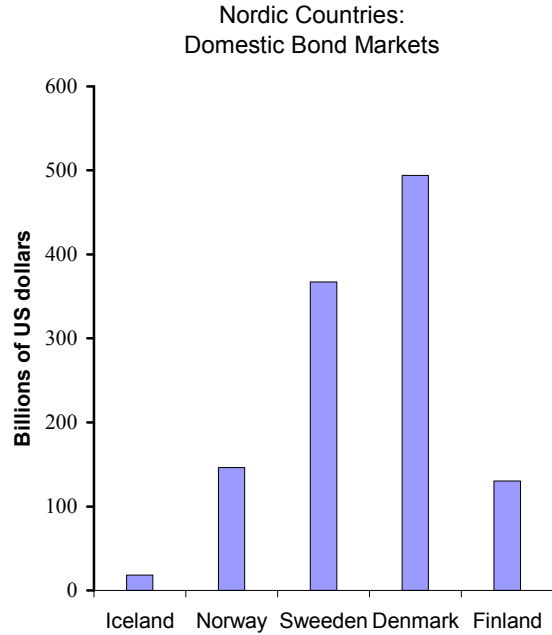
C. Capital Markets

35. **The Iceland capital markets are composed of a money market in króna, an interbank foreign exchange market, a bond and equities market.** The money market consists of short-term interbank loans and a secondary market in government securities and other bank bonds (Figure 8). Spot and forward rates for euros and U.S. dollars and foreign currency swaps are traded in the foreign currency market. The domestic bond market is comprised mainly of issues by domestic public and private credit institutions and the government. The stock exchange (Nasdaq OMX Icelandic Exchange) is the only authorized stock market where public listings of equities and security trading are carried out. The exchange lists both bonds and equities. Pension funds are the largest investors in the domestic securities market.

Figure 8. Securities Markets



Outstanding Stock: USD 19,075 as of 05.15.08



1/ Average

Source: Central Bank of Iceland, OMX, Bloomberg.

Bond market

36. **Securities markets are large compared with the size of the economy but small compared with Nordic peers, and liquidity tends to be low.** The outstanding stock of domestic króna-denominated bonds is about 100 percent of GDPs. The most liquid bonds are those issued by the HFF, which represent about ½ of the market, and the government t-notes.

37. **Recently, a market for Glacier bonds has developed.** These Eurobonds are issues by nonresidents, denominated in ISK, and typically offered to international investors. From 2005 to mid-2007, such bonds were popular because of their relatively high interest rates and the relative low króna volatility. In addition, through the ISK swap market they yielded a discount to issuers with respect to straight euro-denominated bonds. There are about US\$5 billion outstanding.

Foreign exchange market

38. **The largest and most liquid market in Iceland is the foreign exchange market.** Reflecting carry-trade activities fuelled by high interest rates and low currency volatility, turnover on an annual basis increased five times between 2004 and 2008, with monthly volumes averaging US\$10 billion and 60 times the volumes traded in the interbank market. Concurrently, notional gross positions on the foreign exchange markets, including derivatives, reached US\$150 million. The three largest commercial banks dominate the trading operations in the foreign exchange markets.

Equities market

39. **Market capitalization is over 170 percent of GDP and turnover is low.** The relatively small size of the stock market, both by market capitalization and by turnover, and its heavy concentration in a limited number of financial sector names amplifies stock volatilities. As the market capitalization of the largest four banks trades comprises 63 percent of the index, relatively small trades in any of the financial corporations can produce large swings in the index. Concerns about market volatility have led a number of corporations to delist.

40. **Performance has fallen sharply since mid-2007, in excess of other EU stock exchange indexes, after rising rapidly over the past five years.** After gaining over 400 percent in the period 2004 to mid-2007, the index has dropped significantly and more rapidly than in other countries, losing, about 60 percent since the onset of the credit crisis.

D. Stress Testing

41. **The authorities have developed comprehensive stress testing exercises.** The CBI is responsible for the financial stability report and, in that context, has developed a credit risk model and is responsible for liquidity testing. The FME tests bank balance sheets in the context of Pillar II requirements and uses liquidity data collected by the CBI for their own liquidity stress tests. The tests show that financial system to be resilient to a variety of historical shocks but the increasingly difficult conditions in global markets warrant more stringent tests. In particular, (i) the CBI's credit risk model could be strengthened by more complete information on individual loans (including sectorization of credits to holding companies and portfolios held abroad); (ii) the liquidity tests could evaluate the impact of a prolonged restriction in global financial markets; and (iii) more aggressive shocks on the credit portfolio could be evaluated.

Stress testing by the CBI

42. **The CBI undertakes credit risk stress tests for financial stability analysis.** It developed and publishes the credit risk modeling exercise that evaluates banks' capital positions under stylized assumptions on default and recovery rate distributions of credit portfolios.⁹ The baseline portfolio credit risk model is subjected to three stress scenarios stress that includes an increasing range of probability of default (PDs) for selected industries and a 10 percentage point decline in selected industry recovery rates.

43. **These CBI credit risk model results are based on limited access to data on banks' portfolios.** The CBI's assessment is based on a stylized industry credit risk model with only limited information on model inputs. Moreover, the estimated PDs are based on historic averages when default rates were low. The robustness of the CBI's credit risk model could be strengthened by having more complete information about the individual loans in their portfolios (including sectorization of credits to holding companies), more complete data on portfolios held abroad, and stronger assumptions about PDs. The CBI could also improve transparency relative to the calibration and parameterization of the stress scenarios.

44. **The CBI has regulatory authority over bank liquidity standards and requires banks to maintain liquidity sufficient to satisfy a liquidity stress test.** The CBI collects liquidity data and imposes haircuts on liquid assets. The resulting liquidity ratios are measured against the minimum liquidity ratio requirement (the liquidity ratio for positions under three months must exceed one). Liquidity tests report that the banks can meet obligations over the next 12 months. However, the evaluation of banks' liquidity position

⁹ The CBI model is based on CreditRisk+ and estimates probability of default and loss given default to construct proxies for bank portfolio credit risk profiles.

could be complemented by scenarios assuming that global market only recover slowly. Liquidity plans would then be developed showing how the banks would respond to continued market disruptions.

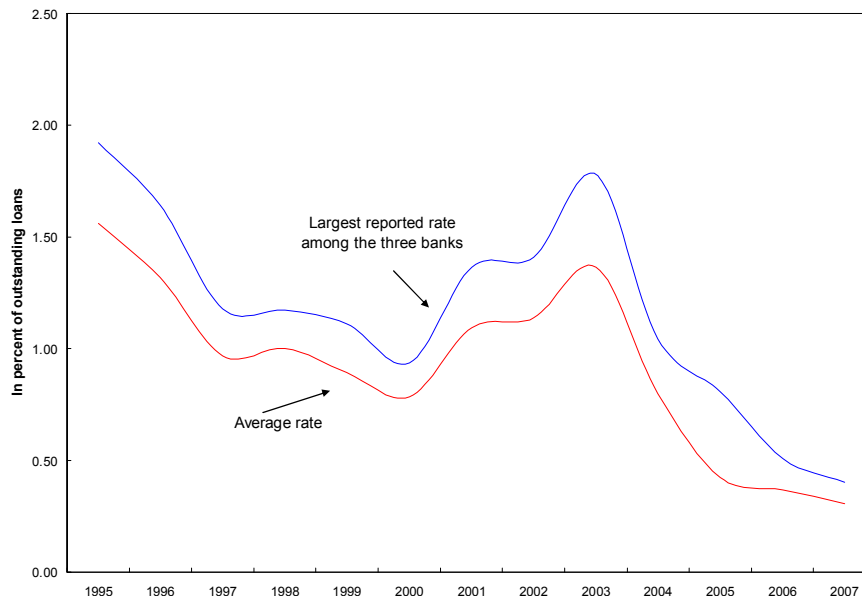
Stress testing by the FME

45. **The FME stress tests individual bank balance sheets for credit and market risks on quarterly basis and publishes the results.** The stress scenario assumes shocks to share prices, long maturity bond prices, and an increase in the expected losses on contemporaneously impaired loans. In addition, the stress include shocks to foreign share prices (-25 percent), domestic share prices (-35 percent), a weakening of the króna (25 percent), a fall in value of long-term bonds (-7 percent), and a decline in the value of contemporaneously reported nonperforming loans (-20 percent). These stress tests are severe relative to historical data. Based on end-2007 results, no bank becomes undercapitalized. The FME is developing further tests in the context of Pillar II requirements.

46. **Since 2007, the FME has supplemented the standard stress tests with additional tests that include a broader range of stresses, including changes in collateral values, funding liquidity, and the potential loss from defaults of large exposures.** In these additional tests, the level of banks' nonperforming and impaired assets are increased according to two alternative shocks. First, each impaired asset category is increased by the largest 12-month observed category-specific increase in the historical recoded. Second, the magnitude of the first shock is increased well above historical experience (Figure 9). Following each of these shocks, the new levels of impaired assets are reduced by 20 percent to reflect a stress recovery rate. These supplemental stress scenarios are added to the "regular" FME stress scenario. Under the most severe stress scenario, three of the four banks remain above regulatory capital minimums and a fourth bank becomes only marginally undercapitalized.

47. **The FME stress tests are rigorous but should be expanded to evaluate significant tail events.** Such events could arise from the continued deterioration in financial environment, market uncertainties about the strength of the banks, or the contagion of risks from one bank to the financial system. In addition, the strong credit performance reflects, in part, the low historical level of defaults and, in part, the highly collateralized nature of lending where loan payment difficulties trigger collateral liquidation and early prepayment (see above). More robust tests could be developed. Stress tests were not formulated to include the joint effect of a decline in equities markets on credit portfolios and their own portfolio holdings and the FME could examine credit robustness in an environment of declining collateral values. While the banks appears resilient to exchange rate fluctuations because of their long foreign exchange position and derivative use, the FME could evaluate the threat to profitability from these hedging positions.

Figure 9. Historical Loan Loss Provisions for Iceland's Largest Three Banks



Source: CBI.

III. STRENGTHS AND VULNERABILITIES OF THE POLICY FRAMEWORK

A. Supervision and Regulation

48. **Iceland has strengthened its legal framework for effective banking supervision and enhanced the FME's capacity to supervise credit institutions.** All the issues raised in the BCP assessment of 2003 have been addressed and the legal framework for banking supervision provides the FME with sufficient legal powers to perform its prudential tasks. The Basel II framework was implemented in 2006 and the FME has published guidelines that deal with Pillar I and Pillar II issues including stress testing, risk concentration, interest rate risk in the banking book, the ICAAP, and, very recently, liquidity risk management. IFRS was implemented in 2005.

49. **The FME is an integrated supervisory authority responsible for the supervision of credit institutions, insurance companies, securities markets, and pension funds.** Both the budget and the staff of the FME have increased significantly over the last years and it plans to grow to 64 employees from the current 56. Almost one-half of FME staff is responsible for to the supervision of credit institutions. All stakeholders, including the government and the supervised parties recognize the need for the FME to grow in line with the expansion of financial undertakings.

50. **The FME has strengthened its internal operations, although additional efforts are warranted.** The quality and efficiency of off-site analysis and on-site inspections was enhanced. The supervisory review process was defined and adapted to the structure of the credit institutions that are subject to supervision and to the level and complexity of risks they face. The FME has a good appreciation of the different types and magnitudes of risks the credit institutions it supervises are exposed to and of the quality of their risk management. While still relying on compliance with prudential requirements and on thorough analysis of backward looking financial indicators, it has introduced more forward-looking elements, including stress tests and scenario analysis, to assess the potential impact of adverse developments.

51. **The FME performs both off-site analysis and on-site inspections as an integral part of its supervisory approach.** The FME adopted risk-based supervision and targeted on-site inspections to address areas of elevated potential for risk. It adopted a CAMELS ratings process and assigned ratings to prioritize supervisory activities. It conducts regular meeting with senior management of the credit institutions to discuss supervisory findings and concerns. To date, the FME does not require the risk management and internal audit reports to be transmitted regularly, nor does it have regular meetings with the risk management and internal audit functions during on-site inspections. It would be advisable to introduce such procedures and to increase the frequency of prudential meetings with senior management on a case-by-case basis.

52. **The FME responded to the challenges arising from the expansion of the large banks into foreign countries and the deteriorating market conditions.** It enhanced the frequency and depth of its monitoring, and increased significantly the emphasis on liquidity management and contingency planning by the credit institutions including stress testing. It increased the cooperation with other relevant host supervisors, especially in the U.K. and the Nordic states to cover the foreign activities of the banking groups domiciled in Iceland more effectively. However, the recent increase in cross-border cooperation reflects primarily host supervisory authorities' concerns rather than a step towards coordinated supervision (see below).

53. **The financial sector is beginning to shift to Basel II and the FME, while adapting to the new framework, needs further strengthening.** Most banks rely on the standardize approach rather than development of their own internal models. The first ICAAP reports (Internal Capital Adequacy Assessment Process) have been produced by the banks and the FME is working with them to ensure that capital levels adequately reflect risks. The banks have not implemented market risk models nor do they have extensive credit risk models. The FME uses estimates of expected PDs and LGD as a benchmark to classify banks' own PDs and LGD. This process is just beginning and further strengthening of staff skills would be important.

B. Cross-Border Policy Coordination

54. **Cross-border cooperation is critical for the successful management of financial problems emerging in the three large banks.** The banks are so large that Iceland would have difficulties addressing significant cross-border stress alone. For that reason, a clear understanding on a shared diagnosis of the conditions of the banks is required and agreement on the allocation of responsibilities in the resolution of the banks is critical.

55. **The FME has considerable contact with foreign regulators but even further coordination could be helpful.** The FME participates with the Nordic financial supervisory authorities in the arrangements for European banking cooperation, is a member of the Committee of European Banking Supervisors (CEBS), and has established MOUs with several non EEA supervisory authorities. It also participates in on-site inspections of branches and subsidiaries located offshore. These contacts are effective but could be broadened. The FME could establish a “forum of supervisors” where a dedicated group of supervisors from relevant jurisdictions could enhance the quality of the risk reviews and assessments while providing a forum to discuss remedial steps in the event of financial distress in the banks.

56. **An even more comprehensive approach to crisis management could to reach an agreement with host supervisors on the management of a crisis in one of the three banks.** Such an arrangement could identify a common approach to the definition of a systemic threat and how the different central banks would react to it. The objective would be the development of a common view on issues such as (i) how to coordinate and communicate with the institution and other external stakeholders; (ii) who is responsible for emergency lender-of-last resort facilities and the policies concerning the use of such liquidity in other jurisdictions; (iii) how to coordinate early supervisory interventions as financial difficulties emerge; and (iv) how to coordinate the resolution of a failing institution.

C. Crisis Management and Problem Bank Resolution

57. **The current bank resolution framework is based on the general banking law and relies on broad supervisory powers to resolve failing institutions.** Under standard supervision authority, the supervisors can require higher capital, remove a bank’s license, and remove management and Board members. The supervisors are also authorized to place an expert in the bank—although not on the Board—to monitor bank operations. When shareholders are unable or unwilling to recapitalize their financial institution, the FME can withdraw its license and seek court approval to initiate the liquidation of a failed bank. The resolution framework takes place under a court-guided process but supervisory judgments cannot be reversed by the court.

58. **This regime could be strengthened with the introduction of a special problem banks resolution regime.** A separate bank bankruptcy regime could introduce a variety of resolution tools not available under the current framework. Supervisors could be authorized

to conduct purchase and assumption transactions whereby performing assets and depositors are rapidly transferred to an open bank, or for the establishment of a holding bank or “bridge bank” if a critical institution could not be immediately transferred to private investors. The law could also facilitate mergers of failing institutions once shareholder capital is depleted.

59. **Development of contingency plans for a possible bank failure, particularly of one of the three large banks, is critically important.** Recent European developments indicate that financial difficulties can emerge unexpectedly and spread rapidly. Contingency plans could allow the authorities to make difficult decisions quickly and efficiently. If shareholders are unable to maintain their bank solvent and liquid, such contingency plans could indicate when government support would be needed and the form such support could take. The government could support asset prices through an explicit, but temporary, guarantee or use existing governmental institutions to provide temporary support. Another option could be the subscription of subordinated debt. While none of these options are optimal, contingency plans for the more drastic scenarios should be discussed and agreed on among the authorities.

IV. MARKET INFRASTRUCTURE

A. Systemic Liquidity Management

Domestic liquidity market

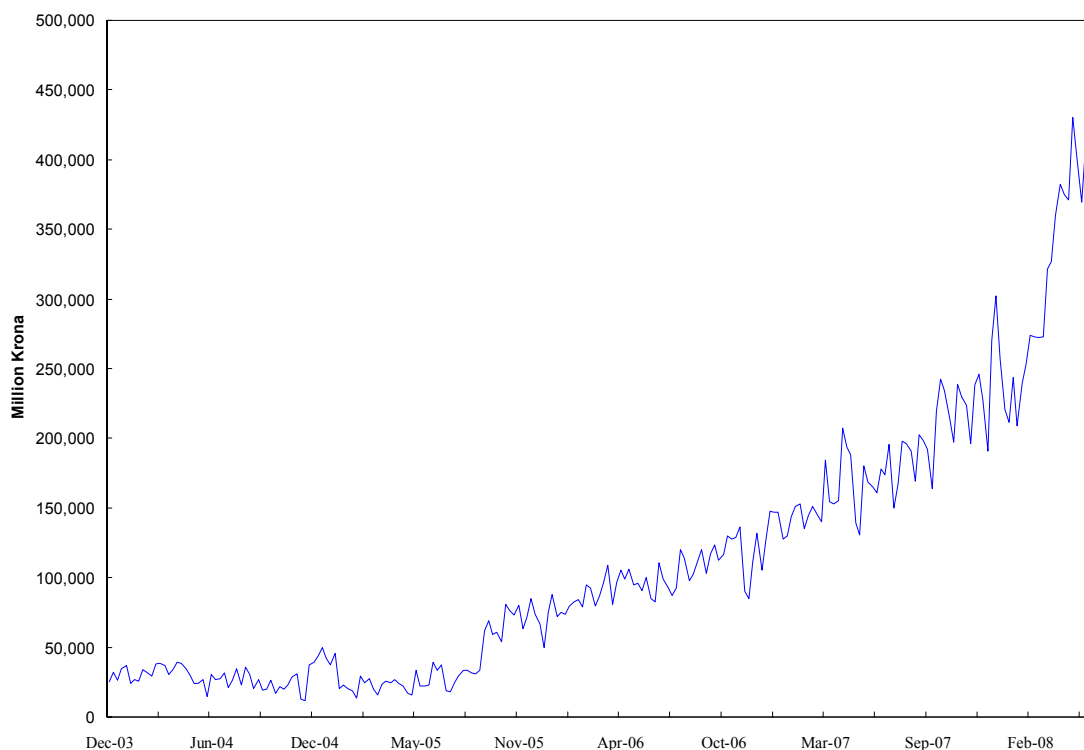
60. **Iceland’s interbank is market generally shallow and has become more so following recent turmoil.** Transactions on the interbank market are small and infrequent and mostly overnight. For example, in June 2008 there were only a few transactions, averaging ISK 10 billion each, compared to weekly transactions of ISK 400 at the CBI (see below). Reportedly, the larger banks are reluctant to take the credit risk, preferring collateralized lending by the CBI.

61. **The CBI has become the principal provider of market liquidity.** The CBI makes seven-day collateralized loans each Wednesday, and demand at the window is large and growing (Figure 10). The CBI does not impose access limits or limits on total exposure to borrowing from the facility, nor conducts competitive bidding. On average, 10–12 banks borrow at the window each week and the CBI regularly rolls over maturing debt. In January 2008 and again in March 2008, collateral restrictions were eased, bringing them in line with the ECB regulations, and the CBI now accepts treasury notes, HFF bonds, A-rated commercial paper in both króna and foreign exchange. While the expansion of collateral rules was aimed at diversifying CBI’s currency risk, all collateral supplied is króna-denominated.

62. **The continued use of the CBI window exposes the institution to potential risks.** CBI holdings of bank securities have increased from almost 240 percent of CBI capital at end-2006 to 278 percent at end-2007 and 370 percent by April 2008. A particularly heavy use of the collateralized lending occurred in early 2008. Banks borrowed domestically to

meet obligations by swapping króna into foreign currency. While the CBI was responding appropriately to the liquidity needs of the financial system, this policy may undermine other macroeconomic policy objectives and exposes the CBI to potential losses, which could require future recapitalization.¹⁰

Figure 10. Collateralized Lending by CBI



Source: CBI.

Foreign liquidity

63. **Recent currency volatility and increased counterparty risk of the Icelandic banks reduced the attractiveness of carry-trades.** In March, a widespread sale of króna positions caused a rapid acceleration in the króna depreciation. The CBI responded by increasing its target interest rate and by issuing a new type of security. The floating-rate notes are currently the only security that offers the CBI policy rate to investors. The high interest rates of such securities and by the low CDS on the Iceland sovereign were successful in

¹⁰ The CBI is reviewing the operation of the collateralized lending facility and is considering measures to improve the quality of collateral and establish access limits.

generating a new carry-trade opportunity for international investors and the pressure on the exchange rate subsided.

B. Payments System Risks

64. **Payment systems have been developed further with rules to help participants monitor their risks and with tools to manage central bank risks.** Corrective actions, recommended by the 2001 FSAP, concerning rules of the system, understanding and management of risks and transparency. To manage risks, intraday credits and exposures in the netting system are collateralized while participants can follow their exposures in real time and limit them. Transparency has also been improved with information about systems and central bank oversight. As a result, the corrective actions for the payment system have been broadly implemented.

65. **The DvP settlement process was adapted in 2007 so that it can settle off-exchange trades.** Previously, it could only accept on-exchange trades. The technical set up can deliver the risk management entailed by DvP. However, the rules of the system do not fully support the DvP process. In addition, some market participants report settling some high value transactions and, in particular, those involving foreign participants without DvP. This may reflect weaknesses or inefficiencies in the settlement process and so should be investigated. The FME and CBI plan for an assessment of securities settlement in Iceland according to the CPSS-IOSCO recommendations. The authorities are encouraged to complete this assessment in cooperation with the Icelandic Settlement Depository (ISD) and market participants.

66. **Harmonizing market practices with those in Europe further could make the market more attractive to foreign participants.** European legislation and market initiatives are increasing the integration of European securities markets. The Nordic markets are part of this trend. Nordic securities are increasingly being offered with other European securities in multilateral trading facilities. In Iceland, ISD is preparing to offer settlement for Icelandic equities denominated in euro through TARGET in accounts with the Bank of Finland. Continued work on harmonization would improve the climate for foreign traders and bring liquidity to Icelandic securities.

Table 1. Selected Economic Indicators, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
								est.	staff proj.	staff proj.
(Percentage change unless otherwise noted)										
Real economy										
Gross domestic product	4.3	3.9	0.1	2.4	7.7	7.5	4.4	3.8	-0.3	-2.1
Total domestic demand	5.9	-2.1	-2.1	5.6	9.9	16.0	9.9	-2.4	-3.2	-5.0
Private consumption	4.2	-2.8	-1.5	6.1	6.9	13.0	4.4	4.2	-2.2	-8.0
Public consumption	3.8	4.6	5.3	1.8	2.2	3.5	3.9	3.3	2.6	2.4
Gross fixed investment	11.8	-4.3	-14.0	11.1	28.1	35.7	20.4	-14.9	-10.0	-4.7
Exports of goods and services	4.2	7.4	3.8	1.6	8.4	7.2	-5.0	18.1	4.3	3.2
Imports of goods and services	8.6	-9.1	-2.6	10.7	14.5	29.4	10.2	-1.4	-3.4	-4.3
Output gap 1/	1.3	1.3	-2.5	-3.9	-0.5	3.0	3.8	4.3	1.6	-1.5
Unemployment rate 2/	1.3	1.4	2.5	3.4	3.1	2.1	1.3	1.0	2.2	3.9
Consumer price index	5.1	6.6	4.8	2.1	3.2	4.0	6.8	5.0	11.7	9.7
Nominal wage index	6.4	8.5	7.8	5.6	4.6	6.5	9.1	9.3	11.7	9.7
Money and Credit										
Deposit money bank credit (end-period)	46.8	17.9	14.2	26.7	41.9	76.0	44.4	56.6	...	...
of which to residents (end-period)	46.0	13.8	11.6	20.0	37.2	54.7	33.6	28.3	...	...
Broad money (end-period)	11.2	14.9	15.3	17.5	15.0	23.2	19.6	56.4	...	...
CBI policy rate (period average) 3/	11.4	10.1	6.0	5.3	8.2	10.5	14.1	13.8	...	...
Public Finance (in percent of GDP)										
General government 4/										
Revenue	45.4	43.7	43.4	44.6	45.9	48.9	49.7	50.1	48.4	45.9
Expenditure	43.7	44.4	46.0	47.4	45.9	44.0	43.4	44.8	46.3	48.9
Balance	1.7	-0.7	-2.5	-2.8	0.0	4.9	6.3	5.2	2.2	-3.1
Structural balance	1.1	-1.3	-1.2	-0.3	0.4	2.2	3.2	2.0	1.0	-2.0
Balance of Payments (in percent of GDP)										
Current account balance	-10.2	-4.3	1.5	-4.8	-9.8	-16.1	-25.4	-15.6	-16.7	-12.3
Trade balance (goods)	-5.5	-0.8	1.7	-1.9	-3.9	-9.1	-13.4	-6.9	-5.6	-4.4
Financial and capital account	11.9	2.6	-1.1	1.2	12.7	13.5	36.4	13.3	16.7	12.3
o/w: reserve assets 5/	0.8	0.6	-0.7	-2.8	-1.5	-0.5	-7.3	-0.5	-2.8	-0.7
Net errors and omissions	-1.7	1.7	-0.4	3.6	-2.9	2.6	-11.0	2.3	0.0	0.0
Gross external debt	108.3	123.3	110.6	139.6	179.1	285.8	445.9	557.9	545.7	545.3
International Investment Position	-67.7	-77.8	-68.9	-62.6	-67.5	-84.3	-119.2	-123.8	-128.1	-133.9
Central bank gross reserves (bln USD)	0.4	0.4	0.5	0.8	1.1	1.1	2.3	2.6	2.9	3.1
Central bank gross reserves (in months of imports of goods and services) 6/	1.5	1.4	1.5	2.2	2.1	1.8	3.4	3.3	3.2	3.5
Nominal effective exchange rate 7/	0.0	-15.7	2.5	6.2	1.8	10.4	-10.8	2.7	...	...
Real effective exchange rate (CPI) 7/	2.7	-12.5	6.2	6.3	2.8	12.8	-6.8	5.7	...	...
Terms of trade	-2.4	0.3	0.6	-4.1	-1.3	1.0	3.5	0.1	...	...
Memorandum item:										
Nominal GDP (bln ISK)	683.7	771.9	816.6	841.5	928.7	1,026.3	1,167.7	1,279.4	1,424.0	1,502.0

Sources: Statistics Iceland; Central Bank of Iceland; Ministry of Finance; and staff estimates.

1/ Staff estimates. Actual minus potential output, in percent of potential output.

2/ In percent of labor force.

3/ Data prior to 2007 refers to annual rate of return. 2007 and on, refers to nominal interest rate.

4/ National accounts basis.

5/ A positive (negative) sign indicates a decrease (increase) in gross official foreign reserves.

6/ Excluding imports from the construction of hydropower facility and smelters in 2003-04.

7/ A positive (negative) sign indicates an appreciation (depreciation).

Table 2. Structure of the Financial System, 2007 1/
(In billions of ISK and percent)

	Number	Total assets	Asset share	Assets/GDP
Banks	37	12,798	85.8	1,040.3
Deposit-taking institutions	25	11,883	79.7	966.0
Commercial	4	11,354	76.1	922.9
Savings Banks 2/	21	529	3.5	43.0
Investment Banks 2/	12	914	6.1	74.3
Institutional investors 2/	89	1,952	13.1	158.6
Insurance companies	12	171	1.1	13.9
Life	4	15	0.1	1.2
Nonlife	8	156	1.0	12.7
Pension funds	40	1,499	10.0	121.8
Investment funds	37	282	1.9	22.9
			0.0	
Other financial intermediaries	9	170	1.1	13.8
Securities brokerages	2		0.0	0.0
UCITS management firms 2/	7	170	1.1	13.8
Total financial system	135	14,919	100.0	1,212.7

Source: Financial Supervisory Authority and IFS.

1/ Number of institutions at end-June 2007 and total assets for commercial banks at end-December 2007.

2/ As of end-2006.

Other information

GDP as of December 2007	1,230	billions of ISK
Exchange rate USD	0.013	Bloomberg as of 5/8/08
Exchange rate EURO	0.0085	Bloomberg as of 5/8/08
Exchange rate USD	0.013954786	IFS as of 12/31/06
Exchange rate USD	0.016168149	IFS as of 12/31/07

Table 3. Financial Soundness Indicators of the Banking Sector, 2000–07 1/

(In billions of ISK and in percent)

	2000	2001	2002	2003	2004	2005	2006	2007
<i>Capital adequacy 1/</i>								
Regulatory capital as percent of risk-weighted assets (CAR)	9.8	11.4	12.2	12.3	12.8	12.8	15.1	12.1
CAR excluding subordinated loans	6.6	8.1	9.1	9.2	9.5	7.6	10.9	6.5
Regulatory Tier I capital to risk-weighted assets	8.1	9.1	9.7	9.7	10.4	10.2	11.7	10.1
Capital as percent of assets	6.2	6.5	7.2	7.1	7.1	7.4	7.8	6.9
<i>Asset composition and quality</i>								
<i>Sectoral distribution of bank credit to corporations (as percent of total loan exposure)</i>								
Real estate	6.6	5.8	5.3	...	...	...	...	9.6
Fisheries	22.9	21.2	17.1	13.4	10.9	10.9	3.1	2.5
Of which: Foreign currency	86.5	86.8	87.0	90.1	90.3	84.0	91.4	93.4
Households	27.5	25.5	26.3	20.1	23.5	24.6	21.7	16.2
Of which: Foreign currency	8.1	10.4	8.6	4.1	7.0	5.2	10.4	16.7
Retail and services	29.4	30.0	32.7	35.5	37.7	33.4	34.9	26.5
Of which: Foreign currency	37.0	36.1	33.7	49.9	51.6	50.0	55.3	56.9
Manufacturing 2/	12.9	13.0	12.7	12.3	10.0	7.1	9.7	6.6
Of which: Foreign currency	43.0	45.3	39.2	42.1	43.4	42.4	63.0	65.2
<i>Asset quality</i>								
Non-performing loans (NPL) as percent of gross loans 1/ 3/	1.5	2.0	2.6	2.1	0.9	1.1	0.8	...
Total provisions as percent of average loans 1/	0.8	1.2	1.2	1.4	0.8	0.3	0.3	0.3
Leverage ratio (equity as percent of total assets) 1/	6.2	6.5	7.2	7.1	7.1	7.4	7.8	6.9
<i>Earnings and profitability 1/</i>								
Gross profits as percent of average assets (ROAA)	0.7	0.8	1.1	1.3	1.8	2.3	2.6	1.5
Gross profits as percent of average equity capital (ROAE)	10.7	13.5	18.1	22.1	30.9	41.7	39.1	22.4
Net interest income to gross income	54.5	63.8	51.4	44.2	40.7	39.7	37.9	46
Non-interest income as percent of gross income	31.0	32.6	26.2	25.0	21.3	24.1	26.1	34.5
Operating expenses as percent of net operational revenue	65.7	66.7	59.4	55.0	45.1	35.8	37.0	50
Staff costs as percent of net operational revenue	32.9	33.8	30.9	29.4	23.9	...	...	...
<i>Liquidity</i>								
Liquid assets as percent of short-term liabilities	120.2	120.8	118.9	120.3	130.0	150.0	200.0	170
Foreign currency loans as percent of total loans	41.6	44.3	39.6	49.0	51.3	51.9	57.7	68.6
Loans as percent of deposits	210.0	210.0	190.0	190.0	240.0	320.0	280.0	220

Sources : Financial Supervisory Authority and Central Bank of Iceland.

1/ Commercial banks and six (five from 2006) large savings banks. In 2006, Sparisjodur Hafnarfjardar merged under the name of BYUR-sparisjodur. Accordingly, figures for the savings banks at end-2006 are for the largest five banks.

2/ Mining, manufacturing and construction.

3/ The NPL ratios for 2005 and 2006 were not disclosed in the reports of most of the banks using IFRS for their annual accounts. The NPL ratios for these two years are provided by the FME for the largest financial institutions (2 commercial banks and 6 large savings banks) based on loans to customer excluding financial institutions.

APPENDIX I. IMPLEMENTATION OF RECOMMENDATIONS FROM THE 2003 FSAP UPDATE

Recommendation	Adopted Measure
HFF operations should be constrained by appropriate minimum prudential financial standards and be subject to formal supervisory oversight.	The HFF is fully supervised by the Ministry of Social Affairs although is subject to adequate minimum prudential standards.
Measures could be taken to alter contract terms and modify clearing and settlement arrangements of HFF liabilities to facilitate direct foreign ownership.	HFF bonds were made fully clearable in 2004 and now trade on the OMX (Iceland Stock Exchange) thereby easily accessed by all categories of investors.
Authorities should consider reassigning the FME's insurance consumer protection mandate.	Insurance was not covered in the current FSAP Update.
Authorities should stand prepared to reassess the FME's future resource requirements.	Iceland has strengthened its legal framework for effective banking supervision and enhanced the FME's capacity to supervise credit institutions. Since 2003, prudential laws and regulations have been amended and the FME has issued several guidelines to address remaining weaknesses identified by the first FSAP. All European prudential directives and IFRS have been transposed into Icelandic law.
Authorities should consider adopting an IAS consistent national accounting standard for all listed firms and design a credible mechanism to enforce national listing standards.	European prudential directives and IFRS have been transposed into Icelandic law.