



Financial Stability Report 2005:1

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Foreword

An analysis of the stability of the financial system is presented by the Riksbank twice a year. The purpose of the Financial Stability Report is to identify conceivable risks in the financial system and assess its ability to withstand shocks. Publishing the Report makes this analysis available to the financial markets as well as to others who are interested, so that it can contribute to a well-informed debate concerning Sweden's financial system. The report is also an instrument for demonstrating how the Riksbank works on the objective, assigned to it by the Riksdag, of promoting a safe and efficient payments system.

The analysis of financial stability concerns the ability to withstand unforeseen shocks to financial companies as well as to the financial infrastructure, that is, the systems that are required for making payments and for trading and delivering financial products. The analysis of financial institutions concentrates on the four major Swedish banking groups on account of their crucial importance for the payment system's stability.

The assessment starts from the external factors that can affect the agents in Sweden's payments system. The first chapter of this report accordingly discusses developments in financial markets and any related risks.

Chapter two presents a survey of how the banks' borrowers have been affected and whether they may act in such a way that the banks become more vulnerable. The chapter ends with a section on real estate prices in the markets for privately-owned housing and for commercial properties. These assets serve as collateral for loans to households and property companies and also have a bearing on their ability to service debt.

As payment system stability can also be affected by the banks' own actions, the third chapter analyses developments in the four banks more closely. Profitability trends can indicate the extent to which banks are exposed to strategic risks. The quality of bank assets is evaluated as an indicator of how credit risks might develop, while the banks' funding capacity provides a picture of potential liquidity risks.

Two articles conclude this report. The first provides a picture of private equity companies in Sweden and their links to the major Swedish banks. In the other article the Riksbank discusses motives for regulating the financial sector separately and the problems this can entail.

The Executive Board of the Riksbank discussed this report at its meetings on 21 April and 12 May.

Stockholm, May 2005

Lars Heikensten

GOVERNOR OF SVERIGES RIKSBANK

■ Summary assessment of stability

The risks of disruptions in the Swedish financial system appear to be limited at present. The economic outlook contains no indications that large loan losses would occur in the banks in the coming year. Debt can, however, lead to problems for individual households in that some of them have only a small margin for rising interest rates or for an impaired ability to service debt. But household credit is not a problem for the banks, which have a good potential for coping with unexpected losses.

GOOD GROWTH BUT LOWER INTEREST RATES THAN NORMALLY

World economic growth has continued to be good since the time of the December Stability Report, though there are regional differences. In the March Inflation Report the Riksbank judged that the global economic upswing would continue in the coming two years, though at a more subdued rate. At the monetary policy meeting on 28 April the Riksbank observed that this picture still applies on the whole but that the new statistics do suggest that the trend will probably be somewhat weaker than seemed likely earlier.

The equity price rise in international stock markets during 2004 continued into the new year in most cases, though for a time now prices have tended to fall back. The upward trend was accompanied by decreased uncertainty (measured as implied volatility) up to the end of February. Although volatility has become somewhat greater recently, it is considerably below the average for the period since the mid 1990s. The somewhat higher volatility could be said to indicate increased uncertainty about future corporate profits but the available interim reports provide no clear support for such an interpretation.

The long-term interest rates have gone on falling, with short breaks, since the time of the December Report and their level is now clearly below what has previously been the case in the corresponding cyclical phase. This has been accompanied by a narrowing of spreads between government bonds and long-term bonds with a larger element of risk; this applies both to corporate bonds and to bonds issued by emerging-market countries. Recently, however, these spreads have become somewhat wider again, though they are still small compared with the average for the past decade.

GOOD ABILITY TO SERVICE CORPORATE DEBT

For the first time since 2001, borrowing by Swedish companies is rising again. During 2004 higher corporate borrowing from credit institutions, primarily the banks, was accompanied by decreased borrowing in the securities markets. In the March Inflation Report the Riksbank considered that in the years ahead corporate investment will grow, which presumably implies a continued increase in the corporate borrowing requirement. Forecasts of a continued increase in corporate borrowing are also supported by a survey of Swedish bank managers.

The financial position of firms strengthened during 2004. An increased proportion of firms achieved a positive return on equity and solvency improved in most industries. For most firms, the stronger financial position comes from increased turnover and not, as previously, mainly from cost-cutting. The number of bankruptcies is falling at an accelerating rate, which supports the impression of a good debt-servicing ability in the corporate sector. The fall is evident for all firms except relatively small hotel and restaurant enterprises and the transport industry. Forward indicators show expectations that bankruptcies will continue to decrease in the coming twelve months.

The banks' exposures are largest to the real-estate companies. This industry is currently one of the strongest, with high profitability and moderate indebtedness.

Companies in the other Nordic countries, the Baltic states and Germany are also of interest to the Swedish banks as a considerable share of their total corporate lending goes to these countries. The situation differs between the three regions. In the other Nordic countries it resembles the picture in Sweden, with increased borrowing as a consequence of rising investment. The debt-servicing ability is good on account of improved financial positions and fewer defaults. Corporate development in Germany is weaker. Bankruptcies are still rising and credit demand is low. Companies in the Baltic states face strong demand and have increased their borrowing over a number of years in order to finance investment. At the same time, they have a good financial position with a debt ratio that has been largely constant or risen only marginally over the period of increased borrowing. Defaults are rising, however, in some industries. All in all, companies in these countries also appear to have a good ability to service their loans.

RAPID INCREASE IN HOUSEHOLD DEBT

Borrowing by households in Sweden is still rising rapidly. In the twelve months through February 2005, total borrowing rose almost 12 per cent, which is the highest rate since the late 1980s. The strong growth of household debt over a number of years is partly connected with falling interest rates and rising real disposable income. The Riksbank considers that demand for household credits will continue to be strong this year. But if interest rates rise in keeping with market expectations, in the coming years the rate of household borrowing is assumed to slacken to some extent.

Although debt has risen faster than disposable income and now amounts to almost 125 per cent of the latter, the ratio of household sector debt to financial assets has been unchanged since the end of 2002.

The ability of households to service debt, measured as the ratio of interest expenditure to income, has also been stable. During the past year this ratio has remained historically low at less than 4 per cent. If interest rates move up as market participants expect, the

interest expenditure ratio will rise. At the same time, as a growing proportion of new household borrowing is being arranged at variable rates, households have become more sensitive to interest rate movements. Over the past five years the average duration of interest terms has shortened from 19 to 12 months.

In the two previous stability reports the Riksbank presented household debt and the ability to service it for different household income categories in the period 2000–02. The figures showed that the households with the major part of debt also owned the major part of the assets. In the present report the series has been augmented with the currently available statistics for 2003 and extended back to 1997. The statistics for 2003 confirm the earlier picture of debt being mainly carried by households with a good ability to service it. In terms of income categories, the study accordingly gives no cause for increased concern about the stability of the banking system.

However, the rapid growth of debt since 2003 does mean that the proportion of households with very large interest payments could rise relatively quickly if interest rates move up again. Although the analysis does suggest that the financial situation in Sweden's household sector will remain good in general, with satisfactory margins for coping with rising borrowing rates and temporary losses of income, there is a risk of problems arising for individual households. Large interest payments do not by themselves mean that households are financially vulnerable but they can affect their future scope for consumption.

THE BANKS HAVE BECOME INCREASINGLY RESILIENT

Bank profitability is still rising. Net interest income continues to be the largest source of income but during the four-quarter period through March 2005 the improvement in profitability came mainly from increased commission income from securities trading and a reduction of loan losses.

Bank profitability is normally used as a direct indicator of the capacity to cope with unforeseen events. However, increased profitability can also be achieved by taking more risks. A bank that becomes more profitable as a result of increased profit margins or higher risk-adjusted income is in an entirely different position to cope with problems than a bank whose profitability rises because its equity capital is small or the proportion of risk-weighted assets is large in relation to total assets. As the improvement of the four major Swedish banks' profitability since the time of the December Report comes primarily from growing profit margins, it implies greater financial strength.

Total lending by the four major banks rose in the latest four-quarter period by around 10 per cent. There was some increase in lending to firms but it is mainly credit to households – above all for housing – that is growing in the Swedish market. For the four major

banks combined, the rate of lending to households in the latest four-quarter period was the highest since the early 1990s but there are some differences between the banks.

At total level, housing credits now make up around 35 per cent of the major banks' combined credit portfolios. The risk on these credits is considered – by banks as well as regulators – to be smaller than on loans to firms, partly because the former have residential real estate as collateral. For this reason, the growing proportion of house mortgage loans should reduce the level of risk in the banks' credit portfolios. A contrary effect may come, however, from the increasingly generous loan terms (such as higher loan-to-value limits and lower amortisation requirements) that are a feature of the accentuated competition. It should be noted, however, that in contrast to the period before the Swedish bank crisis in the early 1990s, when the banks focused more on the value of collateral, credit assessments now concentrate mainly on borrowers' ability to service debt. Still, there are grounds for closely monitoring household indebtedness in the context of credit risks, as well as in a more long-term economic perspective.

Loan losses are declining in all the major banks. The Riksbank's main scenario in the March Inflation Report, with stable GDP growth in the years ahead, gives no grounds at present for expecting an appreciable increase in corporate loan losses in the coming year.

Foreign exchange settlements have constituted a comparatively large share of the banks' counterparty and settlement exposures. The banks have had an opportunity of reducing these exposures in that since September 2003 the Swedish krona is a participant in Continuous Linked Settlement (CLS). Information from the banks about the extent to which they use CLS suggests that they are taking this opportunity. The use of CLS implies a considerably lower risk of contagion both within and to the Swedish banking system.

The structure of bank funding is also relevant in an assessment of stability. The major Swedish banks have had a deposit deficit since the early 1980s; that is to say, the public's deposits do not suffice to finance the banks' loans. At the end of 2004 the deficit was SEK 1700 billion. To a varying degree the major banks are accordingly dependent on funding in the securities and interbank markets. How they choose to arrange this – in which markets and currencies – depends on where their operations are located and where funding is most favourable. The banks obtain around half of their market funds in foreign currency. The currency distribution of borrowed funds is matched with that of assets in order to avoid exchange risk. The increased market borrowing has led to a more diversified funding structure. But it does make the banks more vulnerable to problems in financial markets in Sweden and elsewhere.

The improvement in bank profitability in the past two years has generated increased capital. The Tier 1 capital ratios at end March averaged 7.1 per cent. The major Swedish banks have Tier 1 ratios that are somewhat lower than those of most major European banks

RISKS FOR THE BANKS AND THEIR BORROWERS

The risks in financial markets are primarily associated with rapid adjustments to long-term interest rates, interest spreads and exchange rates.

The persistence of low long-term interest rates can mirror expectations that inflation will remain low and stable. However, interest rates are also susceptible to other, more temporary factors. One such factor that has probably driven long-term interest rates down is abnormally high demand for US Treasury bonds from pension fund managers and Asian central banks. The low return on government bonds can also have tended to strengthen investor demand for assets with a higher risk, for example high-yield bonds. This has pushed interest spreads down, which can be a sign that investors have increased their portfolio risks without demanding the compensation they would normally require.

If investors were to revise their expectations drastically in this situation, there is a risk that interest rates and spreads would be rapidly adjusted. Under those circumstances there would also be a risk of stronger correlations between different types of asset. The circumstance that many investors have ventured into new categories of asset could then lead to decreased activity in those assets and complete or partial loss of liquidity in certain markets.

The current linkage between Asian currencies and the US dollar presupposes, for instance, that Asian central banks are prepared to go on buying US Treasuries. In this way, an appreciation of Asian currencies against the US dollar is avoided and funding the growing US current-account deficits is facilitated. Decreased Asian demand for dollar assets can contribute to a weaker US dollar and higher interest rates. While that could help to adjust the US current account, it would entail risks in the form of weaker domestic demand in the United States and global macroeconomic effects. It would lead, for instance, to an appreciation of the euro against the US dollar, with the risk of slacker GDP growth in the euro area.

Besides these external risks, which would have just an indirect impact on the financial system in Sweden, there is the internal risk associated with a persistently rapid increase in household debt. If long-term interest rates were to be lower than envisaged at present and contribute to a greater increase than expected in household debt, the result might be that for some households the debt burden grows beyond what is sustainable in the longer run.

However, neither of these risk scenarios would have crucial effects for the Swedish financial system. The risks lie rather in rapid price adjustments and what they can entail in terms of a redistribution of wealth, temporary disturbances in market liquidity and possible real economic effects. For the banks, market funding would become more costly at the same time as lower growth could weaken profitability and accentuate credit risks. However, things would have to become substantially worse before the major Swedish banks would incur losses. Their capacity to cope with unexpected shocks is currently good.

The financial system has three main functions: providing payment services, converting savings into investment and managing financial risks. The system consists of the banks and other agents, market-places where they can meet and the financial infrastructure for registering and settling transactions. The stability of the financial system is a major socioeconomic concern. If the system were to stop functioning, the economic and social consequences could be very great. The government therefore has a particular interest in overseeing its functioning.

Considering the huge volume of payments that flows through the system, the greatest economic damage would probably arise from disruptions to the payment function. All economic transactions involve some form of payment. The central agents in the payment system are the Riksbank and the commercial banks. The banks distribute notes and coins, keep transaction accounts connected to the giro system and manage card systems. The Riksbank in turn issues notes and coins and provides accounts in the RIX payment system that the banks can use to execute large mutual payments.

In the light of its central role in the payment system, the Riksbank has the Riksdag's mandate to promote safe and efficient payments. Here there is also a clear link to the Riksbank's other primary objective of maintaining the value of money. A stable financial system is a basic premise for an effective policy of targeting inflation.

The central role of the banks in the payment system puts the spotlight on them with respect to the public interest in overseeing *financial stability*. The Riksbank and Finansinspektionen (the Swedish Financial Supervisory Authority) both have important functions in this oversight and these inevitably overlap in many respects.¹ A crisis

in the banking system would have serious consequences for payments. Overseeing banks is particularly complicated in that banking as such involves a larger element of risk than most other enterprises. Bank liabilities (deposits, loans from other banks) are mostly short-term, whereas assets tend to be long-term.

Moreover, a problem in one bank is liable to spread to other banks and thereby develop into a risk for the system as a whole. One reason for this is that banks have mutual obligations in connection with lending or securities trading, or simply because they participate in the payment system. Another reason is that the similarity of their operations means that problems elsewhere can hit them all in the same way. Contagious effects can also arise simply because other agents suspect that the institutions are interrelated even if that is not the case. Under certain circumstances, such suspicions are liable to be self-fulfilling.

The fact that suspicions alone may suffice to generate contagious effects is characteristic of the financial system. It illustrates the high degree to which the stability of the financial system is dependent on the participants and users being confident that all the system's functions are in working order. A loss of this confidence can make it difficult for the banks to conduct their operations, thereby generating instability. An example of this is to be found in the bank crisis in Sweden in the 1990s, when the international credit market had little confidence in Swedish banks in general, regardless of the extent of the problems in each particular case. This resulted in funding problems for all the banks and almost caused a systemic crisis. In that situation the State was obliged to guarantee all of the banks' liabilities.

However, it is not just confidence in the individual banks that is essential for the

¹ The division of work on stability and the collaboration in this respect have been clarified in a joint agreement; an English translation of the agreement is available at www.riksbank.se/upload/Dokument_riksbank/Kat_AFS/overenskommelse.eng.pdf.

proper functioning of the financial system. Participants must have confidence in all the system's components. In practice, oversight must therefore go beyond the self-evident task of overseeing the banks in the payment system. The Riksbank also needs to analyse developments in financial markets and the tendencies there that could increase the risks in the financial system. To a growing extent this is also an international issue.

The oversight of systemic stability also includes the stability of the financial infrastructure, that is, the systems that are necessary for executing payments and for handling and delivering financial products. The proper functioning of these systems lessens the risk that problems which arise somewhere in the financial markets or in some institution are spread to other participants or markets. It also reduces the risk of disruptions occurring in some part of the infrastructure and spreading from there. The Riksbank continuously evaluates the components of the system on the basis of international norms and standards and to act so that the infrastructure is able to withstand shocks of various kinds.

The financial infrastructure also includes the regulatory framework. Laws and regulations establish the bounds within which financial companies must operate. The Riksbank contributes to this by developing rule systems in Sweden as well as internationally. The development of the regulatory framework is undertaken to a large extent within the Basel Committee and the EU.

The Riksbank's assessment of the risks in the financial system and of the banks' ability to withstand any shocks is published twice a year in this Financial Stability Report. As the four major bank groups have around 80 per cent of the Swedish bank market, the analysis of this ability concentrates on them.

Besides the preventive aspects, the work on stability includes crisis management, that is, a readiness to act if a crisis were actually to occur. Crisis management presupposes that the authorities are in a position to gauge the consequences of the default of an institution with problems. If the consequences would be serious, the authorities must be able to take measures to mitigate them. This may involve contributing to an orderly closure of the institution in some cases or to providing financial support in others.

In certain cases it may be up to the Riksbank to provide emergency liquidity assistance. This possibility arises, however, only if one or more institutions have such grave problems that the stability of the entire system is threatened. Moreover, to qualify for this form of support, the institution in question must be solvent. If the institution is insolvent, any financial support has to be granted by the Riksdag because there is then a risk of costs arising for taxpayers.

The preventive oversight and crisis management are closely connected. Oversight is a prerequisite for the ability of the Riksbank to assess whether a crisis threatens stability and whether the particular problem concerns solvency or liquidity. In a critical situation, the cooperation with Finansinspektionen and the Finance Ministry is especially important.

■ PART I. STABILITY ASSESSMENT

Financial markets

For a time now, both macroeconomic observers and investors have reduced their expectations of future economic growth. In financial markets this has led to a weaker development lower prices and some increase in interest spreads and volatility. But the pricing of credit risks is still historically low. The risks in the future are mainly associated with events that can lead to rapid adjustments of long-term interest rates, exchange rates and interest spreads.

The Riksbank's stability assessment starts from the external factors – real economic developments as well as the situation in financial markets – that are liable to affect the banks and their borrowers. This chapter opens with an account of real economic developments, based on the Riksbank's assessments in connection with monetary policy decisions. Developments in financial markets are then considered and the chapter concludes with a discussion of the associated risks.

Economic developments and financial markets

Since the time of the December Report, the economic trend has been strong in many regions apart from the euro area and Japan. In the March Inflation Report the Riksbank foresaw a continuation of the global growth, albeit at a somewhat weaker rate. In the United States the growth rate in 2005 was expected to be almost 4 per cent, followed by some slackening in 2006. Growth in the euro area was assumed to be not quite 2 per cent in 2005 and somewhat higher in 2006.

For Sweden, the Riksbank's main scenario in the Inflation Report envisaged an annual GDP growth rate of about 3 per cent in the coming two years, driven mainly by rising domestic demand.

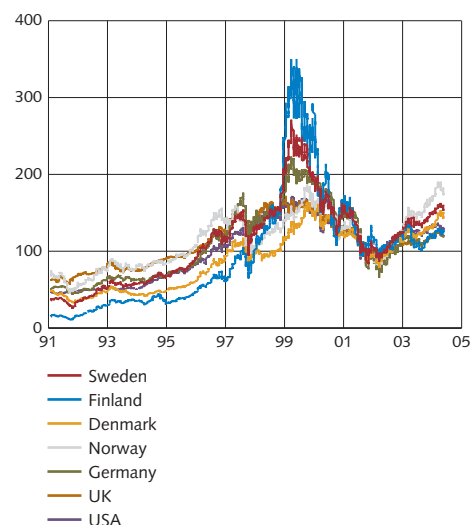
In the Baltic states, which have been among the fastest expanding economies in Europe in recent years, growth has remained high. The main driving force in these countries is domestic demand.

At the monetary policy meeting on 28 April the Riksbank observed that the main features of this picture of global growth still held but that new statistics pointed to the trend in the world economy being somewhat weaker than had been expected earlier.

STOCK MARKETS

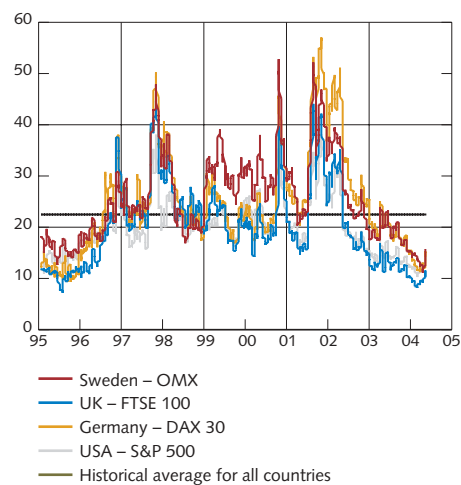
Favourable economic development and the positive picture of the corporate sector, with strong balance sheets and high profits, particularly in 2004, have led to higher prices on stock markets throughout the world since the time of the December Report (see Figure 1:1). This has also resulted in historically low market uncertainty (measured as implied volatility) about the future for the corporate sector.

Figure 1:1. Stock markets in selected countries. Index. September 2002 = 100



Source: EcoWin.

Figure 1:2. Implied stock-market volatility. Index



Source: Bloomberg.

Figure 1:3. Ten-year government bond rates.
Per cent

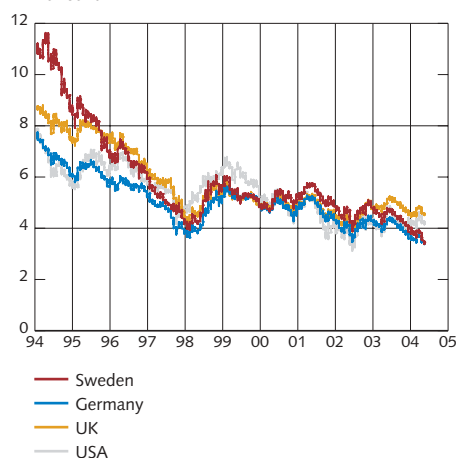


Figure 1:4. Credit spreads in the USA for companies with high and low ratings and for high-yield bonds.
Percentage points

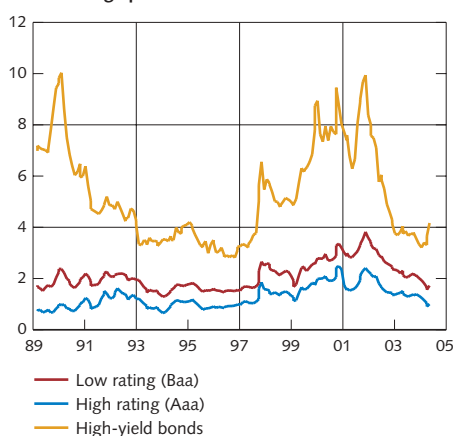
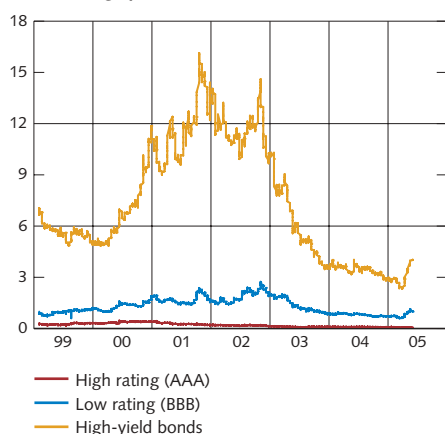


Figure 1:5. Credit spreads in Europe for companies with high and low ratings and for high-yield bonds.
Percentage points



However, recently prices on international exchanges have been falling and volatility has increased again; this probably mirrors growing uncertainty about future economic developments. Still, Q1 reports have been unexpectedly positive rather than negative and volatility continues to be considerably below the average level over a longer period (see Figure 1:2).

The development of profits is expected to remain comparatively good and in terms of P:E ratios, valuations are close to the average for a longer period.²

INTEREST RATES

Notwithstanding repeated increases to the instrumental rate as well as strong economic activity, long-term interest rates in the United States have fallen since the time of the December Report. A fall has also occurred in many other countries, including Sweden, and these rates are generally considered to be low for this cyclical phase (see Figure 1:3).

In the U.S. credit market, spreads between corporate and Treasury bonds have become somewhat wider recently, partly because the bond issues of two large corporations have been downgraded to so-called high-risk bonds. However, the spreads are still historically narrow (see Figure 1:4). A similar development has been observed for bonds denominate in euro (see Figure 1:5).

In Europe, as in the United States, up to and including Q1 this year downgradings have continued to outnumber upgradings but the proportion of upgradings has been rising for a time.

Narrow interest spreads do, however, imply unduly low compensation for risk. In the light of the downward revision of growth expectations, it is therefore reasonable that interest spreads have become somewhat wider.

Spreads on bonds issued by emerging-market countries in relation to U.S. Treasury bonds are also narrow compared with the average since the mid 1990s, though they have also widened recently (Figure 1:7). One explanation for narrower spreads is that several of the emerging-market countries have been upgraded by credit rating companies.

All in all, for a time now financial market prices have reflected a downward revision of, the expectations of both macroeconomic observers and investors about future economic growth. This has led to some adjustment towards a weaker stock-market trend, increased volatility and wider interest rate spreads. A conceivable interpretation is that this represents a natural adjustment from historically low to more normal levels. But interest spreads and volatility remain low.

² This refers to P/E ratios based on forecast earnings for OMX 30 (Sweden), S&P 500 (USA) and DJ EURO STOXX (EU).

Risks for Swedish banks and borrowers

The risks in financial markets are primarily associated with rapid adjustments to long-term interest rates, interest spreads and exchange rates.

The fact that long-term rates, particularly in the United States, are unusually low for this cyclical phase may be due to other factors than expectations that inflation will remain low and stable. Demand for long bonds has been abnormally strong for a time. A number of Asian central banks are buying U.S. federal paper for reasons to do with exchange rate policy rather than on commercial grounds. Moreover, revised rule systems for pension fund managers, aiming for a better match between commitments and assets, can have obliged them to purchase more long-term U.S. federal paper than they would normally have chosen to do. This may have helped to keep the long-term interest rates below a market equilibrium.

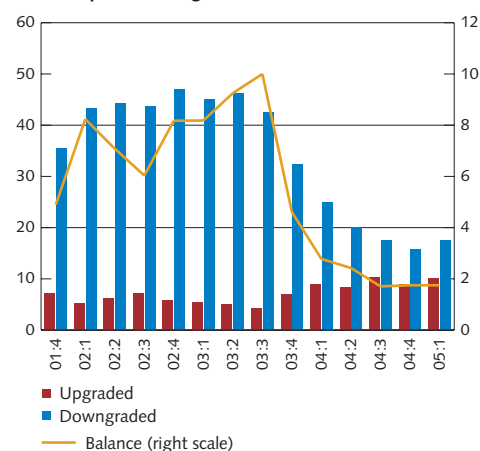
Low bond rates and low volatility have in turn driven down investor risk (measured as value-at-risk). This has provided scope for increasing exposures in higher-risk paper as well as in alternative types of asset without taking on a larger overall risk. Financial institutions have in fact increased their investments in high-risk bonds, various primary products and more complex credit assets. Moreover, a number of major international banks have increased the level of their value-at-risk, which indicates a quite appreciable growth of exposure to risk.

Thus, the downward shift in interest spreads does not necessarily come solely from an actual reduction of risks as a result of the improvement in corporate profits and higher credit ratings for emerging-market economies. It can also be a consequence of investors having chosen to increase their portfolio risks without demanding the compensation they would normally require.

If investors were to revise their expectations drastically in this situation, there is a risk of financial market instability. Interest rates and spreads would then rise. There could be large price movements and decreased liquidity in financial markets. That could also increase the correlations between different types of asset. Price developments might then follow the same pattern in a number of different markets, as happened during the LTCM crisis in 1998. The value-at-risk of financial institutions would rise rapidly. These developments could be accentuated if investors tried to re-weight portfolios. The circumstance that many investors have ventured into new categories of asset could then lead to decreased activity in those assets and complete or partial loss of liquidity in certain markets.

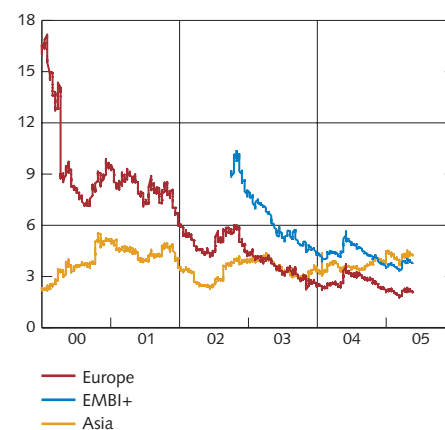
The current linkage between Asian currencies and the US dollar presupposes, for instance, that Asian central banks are prepared to go on buying US Treasury securities. In this way, an appreciation of Asian currencies against the US dollar is avoided and funding the growing US current-account deficits is facilitated. Decreased Asian demand for

Figure 1:6. Up- and downgrading of companies in Europe. Four-quarter average



Source: Standard & Poors.

Figure 1:7. Credit spreads for bonds issued by emerging market countries. Percentage points



Source: Bloomberg.

dollar assets can contribute to a weaker US dollar and higher interest rates. While that could help to adjust the US current account, it would entail risks in the form of weaker domestic demand in the United States and global macroeconomic effects. It would lead, for instance, to an appreciation of the euro against the US dollar, with the risk of slacker GDP growth in the euro area.

Besides these external risks, which would have just an indirect impact on the financial system in Sweden, there is the internal risk associated with a persistently rapid increase in household debt. If long-term interest rates were to be lower than envisaged at present and contribute to a greater increase than expected in household debt, the result might be that for some households the debt burden grows beyond what is sustainable in the longer run.

However, neither of these risk scenarios would have crucial effects for the Swedish financial system. The risks lie rather in rapid price adjustments and what they can entail in terms of a redistribution of wealth, temporary disturbances in market liquidity and possible real economic effects. The Swedish banks would be affected via funding in securities markets. Moreover, credit risks could grow in that costs for funding and borrowing would affect companies as well as the household sector, where debt is already high.

■ The Swedish banks' borrowers

Total corporate borrowing in Sweden is now tending to rise as investment picks up. Improved operating profits have strengthened the ability to service corporate debt. Borrowing by households is still growing rapidly. Although the debt has risen relative to income, the interest expenditure ratio is unchanged. But as the loan stock's average duration of interest terms has shortened more and more, households have become more vulnerable to interest rate movements.

The corporate sector in Sweden

During 2004 total corporate borrowing rose slightly, or by almost 1 per cent. As a percentage of GDP, however, corporate borrowing is still falling.

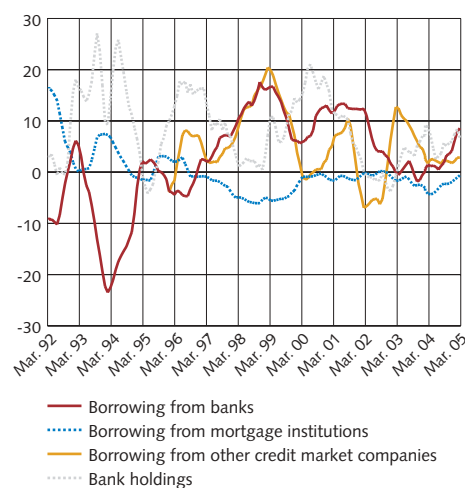
Borrowing rose from credit institutions but fell from securities markets. Corporate borrowing from banks, which had been slackening for a number of years, picked up again in the second half of 2004. In the twelve months through March 2005 bank borrowing rose almost 8 per cent, which can be compared with 1.5 per cent in the preceding twelve months. Borrowing from other credit institutions is also growing but the fall from mortgage institutions is continuing (see Figure 2:1).

The increase in corporate borrowing from the finance companies of the four major bank groups in the twelve months through March amounted to 12 per cent. This may be a sign that the new rules for preferential rights under bankruptcy law that became fully effective as of 2005 have made a difference, so that the banks are more prone to replace ordinary credit with factoring and leasing via their finance companies. The growth rate for the preceding twelve months was 5 per cent.

One explanation for the increase in corporate borrowing is probably that corporate investment rose during 2004, albeit from low levels. High capacity utilisation and positive investment plans contributed to the Riksbank's assessment, in the March Inflation Report, that investment will rise 8 per cent during 2005 and somewhat more slowly after that.³ In accordance with the earlier pattern, firms should borrow more when investment rises even though liquidity in the corporate sector is generally good.⁴ The Riksbank therefore envisages that in the coming years corporate borrowing from banks will continue to rise.

This assessment is supported by a survey of branch managers in the Swedish banks.⁵ Of the 150 managers throughout Sweden who were included in the survey, almost 80 per cent expected that lending will rise this year. The borrowing requirement is said to be greatest among small and medium-sized firms, the categories that are most

Figure 2:1. Non-financial companies: borrowing and bank holdings.
Twelve-month change, three-month moving average



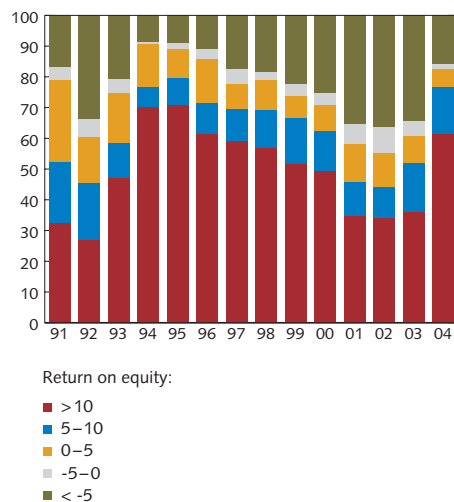
Source: The Riksbank.

³ The Riksbank's Inflation Report, IR 2005:1

⁴ Corporate investment and the borrowing rate have correlated strongly in the past irrespective of corporate liquidity. Investments undertaken outside Sweden are probably also financed externally, in which case the correlation with borrowing in Sweden is probably less marked.

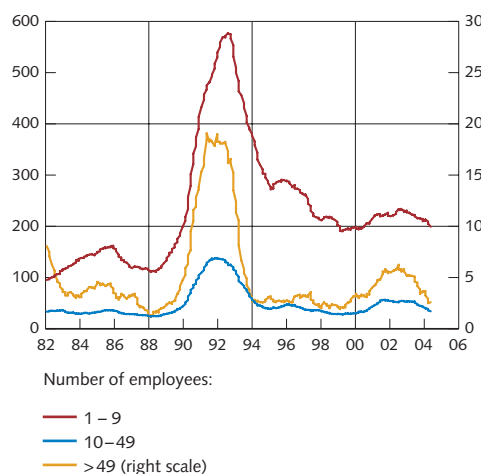
⁵ Almi's lending indicator, March 2005. www.almi.se

Figure 2:2. Return on equity in listed companies.
Shares of total number of companies



Sources: Bloomberg and the Riksbank.

Figure 2:3. Number of corporate defaults by size of firm.



Source: Statistics Sweden.

dependent on banks for funds. The rising demand for business credits is attributed to increased new investment and the implementation of investments that were postponed earlier, rather than to easier credit terms. A large majority of the respondents state that credit terms are unchanged. The survey also confirms the impression that lending via finance companies has expanded at the expense of direct bank loans.

After falling successively ever since the mid 1990s, in 2004 the proportion of listed firms with a positive return on equity increased markedly as profits were generated to a greater extent (see Figure 2:2). The consolidation of balance sheets that occurred during the economic slowdown in the early 2000s is now evident in firms' improved performance. In 2004 a positive return on equity was reported by almost 80 per cent of listed firms as against 60 per cent the year before. Annual reports for 2004 show that of 305 listed companies, 67 per cent improved their profit and 53 per cent report both an improved profit and increased turnover.

The combination of a higher return on equity and stable or improved solvency in most industries implies that the financial position of the corporate sector has been strengthened. Companies are accordingly in a good position to repay loans, raise new credit and step up investment.

The increased borrowing has been accompanied by continued additions to corporate deposits in the banking system. This mirrors the growth of earnings but it may also be a sign that firms have lacked a sufficient number of profitable investment projects.

The impression of a persistently low credit risk in the corporate sector is strengthened by the development of defaults. In the twelve months to March 2005 the number of bankruptcies decreased by around 15 per cent. The fall was most marked among sizeable firms (see Figure 2:3). The defaults in this period were concentrated to firms with fewer than ten employees. Bankruptcies rose in the hotel and restaurant industry and the transport industry but fell in the other industries (see Figure 2:4).

A leading indicator of corporate sector bankruptcies is the expected default frequency (EDF), calculated on the basis of stock-market information and data from financial statements.⁶ This indicator points to a reduction of defaults in the coming twelve months in every industry except the transport and the IT-telecom sectors, where a continued increase is foreseen (see Figure 2:5). However, the level of bankruptcies is still low. The improvement in operating results suggests that firms have a good ability to service debt. Low stock-market volatility and rising equity prices in 2005 indicate that this is also the assessment of market participants.

⁶ Moody's KMV calculate the probability of bankruptcies in limited companies – the expected default frequency (EDF) – within a given time horizon on the basis of equity prices and financial statements. As a calculation of the probability of a company's assets becoming smaller than its debts at the time when the latter mature, the EDF represents the estimated risk of a listed company being unable to meet its commitments. The market value and the volatility of a company's assets are derived in turn from the company's stock-market value, using option pricing methods. Higher indebtedness, a lower market value and higher asset volatility all lead to a higher EDF, that is, a greater probability of default within the given time horizon.

PROPERTY COMPANIES

Around 40 per cent of the banks' total stock of loans to the corporate sector consists of loans to firms that manage real estate, which motivates a separate analysis of this industry.

Bank borrowing by property companies rose almost 4 per cent in 2004.⁷ This was accompanied by a further improvement in the industry's financial position as the low level of interest rates has led to some increase in the interest cover ratio while the debt ratio has fallen (see Figure 2:6). This suggests that the ability of property companies to service debt remains good despite the weak trend in the office market in particular.

The impression of a stronger financial position among property companies is confirmed by the development of defaults. The average level of defaults in March this year was 10 per cent lower than a year earlier, which indicates a decreased credit risk. As bankruptcies are expected to go on falling in the coming twelve months, it seems that the credit risk will remain low.

Corporate sectors in the other Nordic countries, Germany and the Baltic states

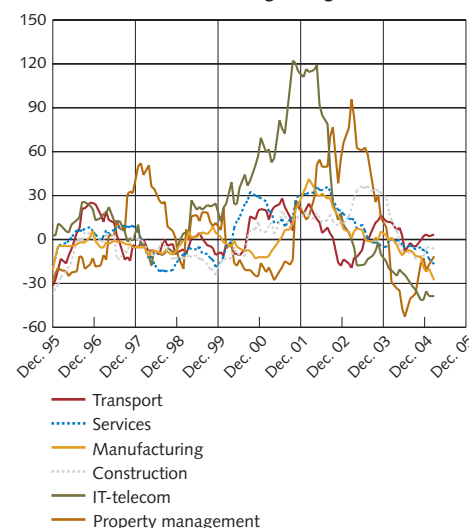
The exposures of the Swedish bank sector abroad are largely concentrated to the other Nordic countries and Germany. In addition, Swedish banks have major interests in the Baltic states, with market shares ranging from 35 to 90 per cent.

In the other Nordic countries the picture largely resembles that in Sweden. Corporate borrowing has started to rise again as investment is now picking up speed. Borrowing rose 9 per cent in Finland during 2004, followed by 7 per cent in Denmark and just over 3 per cent in Norway. Defaults have developed somewhat differently in these countries. The number of bankruptcies fell around 10 per cent last year in Finland and Norway, whereas it rose almost 3 per cent in Denmark, where, as in Sweden, small companies account for a majority of the defaults. The expected default frequency in the coming twelve months is still low in all three countries (see Figure 2:8). The overall assessment is that firms in these countries have a good debt-servicing ability.

In Germany, on the other hand, the corporate credit risk is higher, largely on account of the persistently weak economic growth, which has been below the euro area average. As a result, demand for corporate credit in Germany remains low. Firms reduced their bank borrowing by more than 3 per cent in 2004, accompanied by a marginal increase in the number of defaults. However, the number of bankruptcies is expected to fall in the coming twelve months (see Figure 2:8), which points to the prospect of an improvement in the corporate sector's financial position.

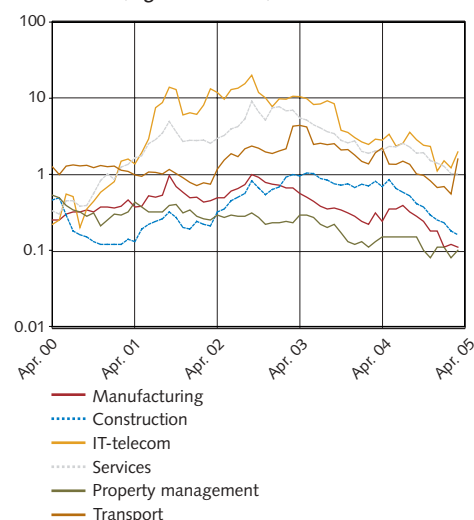
⁷ This refers to borrowing from three of the four major banks.

Figure 2.4. Corporate defaults broken down by industry. Per cent, 12-month moving average



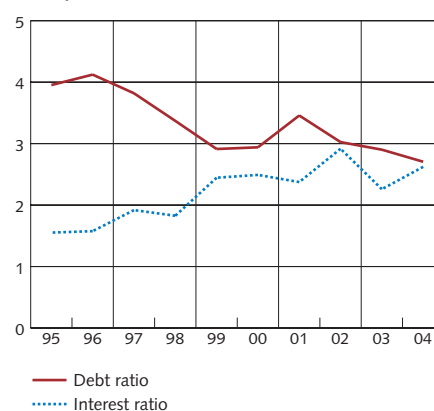
Source: Statistics Sweden.

Figure 2:5. Expected default frequency (EDF) by industry for listed non-financial companies. Per cent (logarithmic scale).



Source: Moody's KMV.

Figure 2:6. Interest and debt ratios for listed property companies



Source: Six Trust.

Figure 2:7. Expected default frequency (EDF) for non-financial companies in Nordic countries and Germany.
Per cent (logarithmic scale)

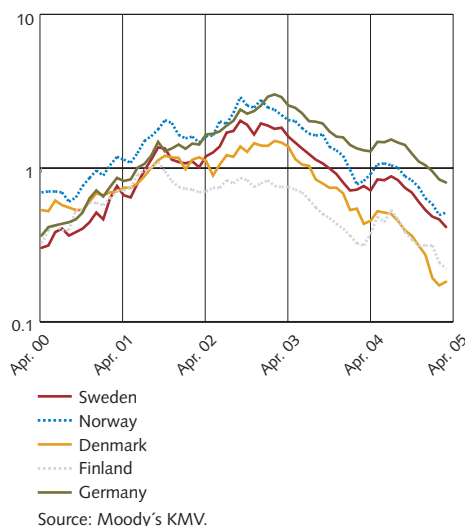


Figure 2:8. Expected default frequency (EDF) for listed property companies in Nordic countries and Germany.
Per cent (logarithmic scale)

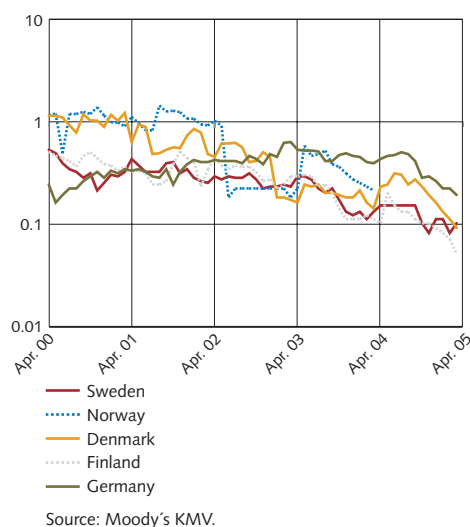
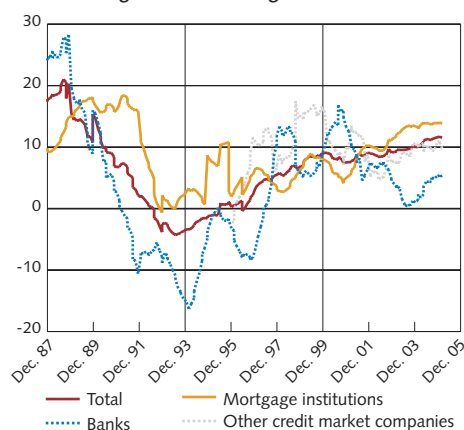


Figure 2:9 Household borrowing by type of institution.
Percentage 12-month change



In the Baltic states, the combination of persistently strong economic growth and a low level of interest rates has led to a further increase in corporate borrowing. The corporate financial position remains good. Notwithstanding the increased borrowing, the ratio of debt to equity has been virtually constant or risen only marginally. In Estonia and Lithuania, however, bankruptcies are still rising. Still, the corporate debt-servicing ability in the Baltic states is judged to remain good, mainly in that the comparatively high economic growth is expected to continue.

The household sector in Sweden

The rate of household borrowing has gone on accelerating since the time of the December Report (see Figure 2:9). In the twelve months through March 2005 total household borrowing rose almost 12 per cent. Borrowing from mortgage institutions is still rising fastest, with a twelve-month rate in March of almost 14 per cent. The rate of bank borrowing has also gone on rising and was over 5 per cent on a twelve-month basis in March.⁸ Household borrowing from other credit market companies grew by about 10 per cent.

The growth of household debt has exceeded what the Riksbank assumed in the December Report. One probable reason for this is that the reduction of lending rates by credit institutions was greater than previously expected. Persistently strong economic activity and rising disposable income are assumed to contribute to the continuation of a high rate of household borrowing this year. If interest rates move up as expected by market participants, there will be some slowdown in the household borrowing rate.

The ratio of household debt to disposable income in 2004 Q4 was almost 125 per cent, which is also marginally higher than foreseen in the December Report. Debt is seen to be rising faster than household disposable income, which implies that the debt ratio will move up in the coming two years (see Figure 2:10).

The ability of households to service debt, measured as the interest ratio (interest expenditure after tax relief as a percentage of disposable income) has been virtually unchanged since the time of the December Report. The ratio has remained low in that lending rates have gone on falling and it is still below the historically low level of 4 per cent. With the growth of lending and the rising interest rates that market participants foresee, the interest ratio will move up in the coming years.⁹

⁸ Transfers of costly top mortgage loans from banks to mortgage institutions in the wake of rising property prices probably led to the comparatively weak figures for bank borrowing by households in 2002 and 2003. That household borrowing has risen from banks as well as mortgage institutions in the past year presumably mirrors an end to transfers of this type, together with an increased demand for consumer credits.

⁹ Since the time of the December Report household interest expenditure has been revised in the light of National Accounts data; this has led to some downward adjustment of the interest ratio for earlier quarters.

The financial assets of households have grown at the same rate as their debts since 2003. Total debt amounts to just over 70 per cent of the value of the financial assets, which means that in the past two years there has been some increase in the absolute level of household's net financial wealth.¹⁰ The chief asset for households, however, is housing. With the development of house prices, total wealth (both financial and real assets) has kept pace with debt. Consequently the ratio of debt to total assets has been unchanged in this period at just over 30 per cent.

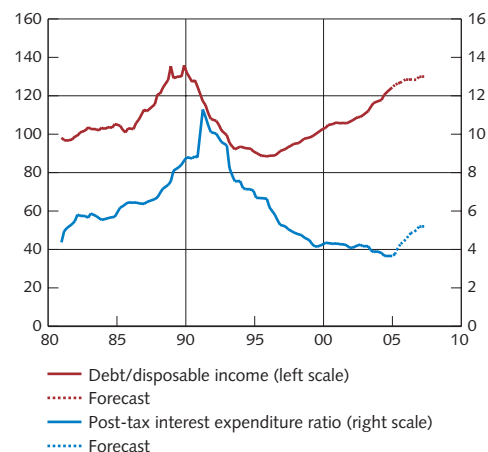
The proportion of loans with variable interest rates has gone on rising since the time of the December Report, making households still more sensitive to interest rate movements. The average duration of interest terms in the stock of loans to households shortened to around 12 months during 2004 Q4, which is a short duration historically (see Figure 2:11).¹¹

A large proportion of all new borrowing from mortgage institutions is still arranged at variable interest rates, though the level has fallen from about 60 per cent last September to just under 50 per cent in March 2005. It should be underscored, however, that borrowers with variable rates are free to switch to a fixed rate at any time. At present the spread between variable rates and fixed rates for a five-year house mortgage loan is less than 1 percentage point, which means that the additional cost of changing to a fixed rate is relatively small. However, if the long-term interest rates were to move up, this situation can change quickly.

A study of the debt and debt-servicing ability of households, grouped according to income, is again presented in this Report.¹² The statistics that are now available for 2003 show that the major part of debt was located in households with high financial margins. At the level of income groups, the study accordingly gives no grounds for increased concern about the stability of the financial system. It remains improbable that the increased costs associated with rising interest rates, for example, will lead to payment difficulties for the total household sector and thereby to appreciably increased loan losses for the banks.

Although the analysis does suggest that the financial situation in Sweden's household sector will remain good in general, with satisfactory margins for coping with rising borrowing rates or temporary losses of income, there is a risk of problems arising for individual households.

Figure 2:10. Ratios of household debt and post-tax interest expenditure to disposable income.
Per cent



Sources: Statistics Sweden and the Riksbank.

Figure 2:11. Average duration of interest terms for total household borrowing.
Number of months



Source: The Riksbank.

¹⁰ Financial assets are defined here excluding the value of households' holdings in tenant-owned housing and collective insurance saving. Debt and assets according to Statistics Sweden's Sparbarometer.

¹¹ The average duration is a weighted mean for house mortgage loans with different interest terms. All loans from banks and other credit market companies, including housing loans at variable rates, have been assigned a duration of 3 months. The durations represent remaining time to maturity.

¹² See the box on pages 27–29 of this Report.

Competition has increased in the residential mortgage market and other markets for household credit, as regards not only lending rates but other loan terms, too. It seems, for instance, that higher loan-to-value ratios and, to some extent, lower repayment requirements are being used more extensively for competition. Moreover, the tone in financial marketing, with the emphasis on consumer credits without collateral, appears to have become more aggressive in the past six months. All in all, these developments can entail a further increase in the risks for individual households and in time even raise questions about total household debt. It should be noted, however, that in contrast to the period before the Swedish bank crisis in the early 1990s, when the banks focused more on the value of collateral, credit assessments now concentrate mainly on borrowers' ability to service debt. Still, there are grounds for closely monitoring household indebtedness in the context of credit risks, as well as in a more long-term economic perspective.

Swedish households' debt-servicing ability 1997–2003

For a year or so, the Riksbank has augmented the analysis of the total household sector by presenting data on debt and wealth for households in different income categories.¹³ Earlier studies have shown that household sector debt is located in households that have

- high disposable incomes
- real and financial assets
- good financial margins

This box summarises the information for 2003 that has become available since the time of the December Report. At the same time, the series has been extended back to 1997.

Households are divided, as previously, into five equally large income categories.¹⁴ Their financial margins, likewise estimated in the same way as before, indicate how much income after tax is left when interest expenditure and other living costs have been paid.¹⁵ This information is used to identify groups of households that are financially vulnerable, that is, those with a small or negative margin.

The analysis focuses on income categories 2 to 5. A large majority of the households in category 1 have no earned income and no assets or debts.

From 2002 to 2003 the changes in the distribution of debt and wealth in the Swedish household sector were slight. The rising stock market led to a strong increase in the value of households' financial assets in all income categories and rising house prices contributed to an increased value of real assets. So although debt grew rapidly between these years, household indebtedness, measured as the ratio of debt to total assets, remained stable at around 35 per cent in every category.

The financial situation of indebted households in 2003 is shown by income categories in Table B1. The holdings of assets and debts vary greatly, not only between income categories but also within them. It follows that the situation for the median household in each category can differ appreciably from the averages shown in the table.

In the income category with the major share of debt, category 5, post-tax household income in 2003 averaged about 455,000 kronor, while annual interest expenditure in this category was below 30,000 kronor. The households in this category therefore had large margins when interest and other living costs had been paid.

The households in income category 4, with about 25 per cent of total debt in 2003, are also judged to have had adequate margins.

Table B1. The financial situation of indebted households in 2003.
Population-weighted averages, 1000s of SEK and per cent

2003	Category 1	Category 2	Category 3	Category 4	Category 5
Disposable income (SEK thousand)	73	131	186	281	455
Debt (SEK thousand)	219	157	233	424	818
Financial assets (SEK thousand)	86	79	122	212	481
Real assets (SEK thousand)	490	340	581	902	1,595
Interest ratio (%)	25.9	3.7	4.2	5.2	6.1
Debt ratio (%)	831	122	124	150	174
Total debt: total assets (%)	37	37	35	38	37
Share of total liabilities (%)	3.7	5.5	10.9	25.1	54.8
Share of total assets (%)	2.6	2.9	6.9	16.3	71.3

Sources: Statistics Sweden and the Riksbank.

¹³ For a more detailed account of the approach and method, see for example the article on pages 61–69 in Financial Stability Report 2004:1. See also the box on pages 33–35 in Financial Stability Report 2004:2.

¹⁴ Income category 1 comprises the 20 per cent of households with the lowest disposable incomes, category 5 the 20 per cent with the highest disposable income.

¹⁵ Household budgets have been estimated by matching the composition of families with the Swedish Consumer Agency's calculations of living costs.

Table B2. Households with no financial margin in per cent of indebted households in the same income category and of all indebted households. Per cent

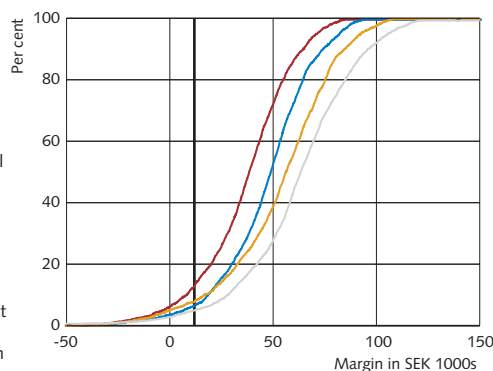
Income category		1997	1999	2000	2001	2002	2003
2	Per cent of indebted households in this category	9.6	8.0	9.1	6.3	5.8	6.3
	Per cent of all indebted households	1.5	1.2	1.2	0.8	0.8	0.9
3	Per cent of indebted households in this category	7.0	5.1	3.5	2.7	2.6	2.2
	Per cent of all indebted households	1.4	1.1	0.7	0.6	0.5	0.5
4	Per cent of indebted households in this category	3.8	0.8	0.7	0.5	0.6	0.4
	Per cent of all indebted households	0.9	0.2	0.2	0.1	0.1	0.1
5	Per cent of indebted households in this category	0.3	0.0	0.0	0.0	0.0	0.0
	Per cent of all indebted households	0.1	0.0	0.0	0.0	0.0	0.0
All four categories	Per cent of all indebted households	3.8	2.5	2.1	1.5	1.5	1.5

Due to rounding, the columns may not sum to the totals.

Source: The Riksbank.

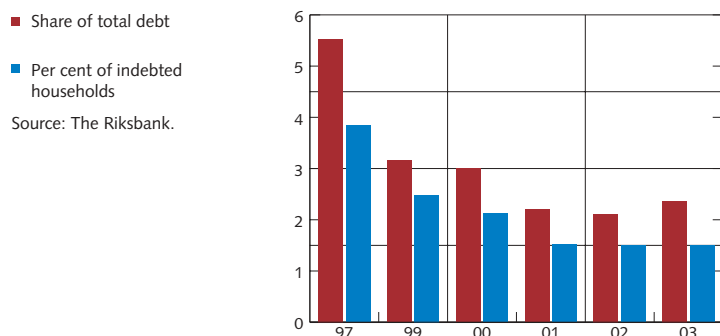
The households in income category 3 had the highest growth of debt and accounted for just over 10 per cent of the total stock in 2003. Their post-tax income in 2003 averaged 186,000 kronor and annual post-tax interest expenditure averaged 7,900 kronor. The proportion of indebted households in income category 3 that lacked a financial margin decreased to some extent from 2002 to 2003.

Figure B1 shows how the financial strength of households in income category 3 improved successively in the period 1997–2003. The curves indicate how the proportion of households that have no financial margin grows as the household budget shrinks in steps of one thousand kronor. Zero on the horizontal scale represents the point where the incomes and expenditures of the indebted households in the category balance exactly, given the conditions for that year. From 2002 to 2003 the proportion of households with no financial margin decreased from over 2.6 per cent to about 2.2 per cent.

Figure B1. Tolerance of rising expenditure or loss of income in income category 3. Per cent and SEK

Note. The curves, which represent the distribution of financial margins in four selected years from 1997 to 2003, show the proportion of indebted households in income category 3 in relation to the size of the financial margin (horizontal axis). A parallel shift to the right accordingly indicates an improvement in the financial strength of the income category.

Source: The Riksbank.

Figure B2. Households with no financial margin: share of total debt and proportion of all indebted households in income categories 2 to 5. Per cent

Source: The Riksbank.

In Figure B1, the proportion of households that would have lacked a financial margin if monthly costs had risen by 1000 kronor is represented by the intersection of the thick vertical line and the respective curve.

Table B2 presents a more detailed picture of changes from 1997 to 2003 in the proportions of financially vulnerable households in income categories 2 to 5. It shows a continuous decrease since 1997. From 2002 to 2003 the overall proportion of financially vulnerable households in income categories 2 to 5 was unchanged at 1.5 per cent.

However, the group of households defined here as financially weak increased their share of debt marginally in 2003. Figure B2 shows how, for income categories 2 to 5 combined, both the proportion of households with no margin and their share of the total stock of household debt developed from 1997 to 2003. According to the

statistics for 2003, financially weak households increased their share of the stock of debt from 2.1 per cent in 2002 to about 2.4 per cent in 2003.

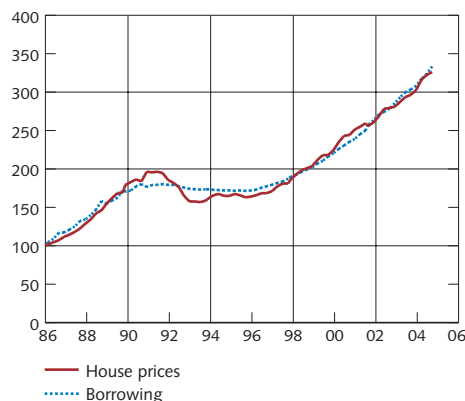
The debt-servicing ability, measured as the average post-tax interest ratio, was broadly unchanged in every income category from 2002 to 2003, which corresponds well to the observed development at the macro level.

During the past decade the financial strength of the household sector has been gradually reinforced. The figures for 2003 convey the overall impression that the debt-servicing ability of Swedish households underwent a further marginal improvement, if anything, from 2002 to 2003.

Much the largest share of household sector debt continues to be carried by households

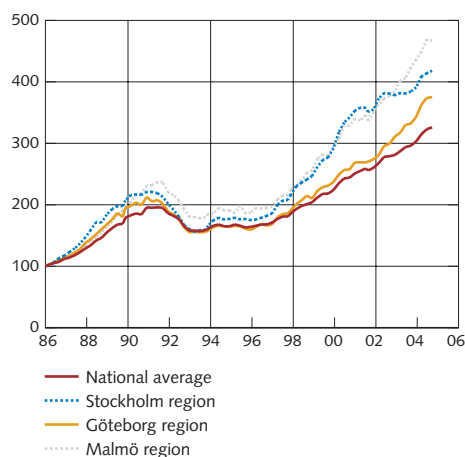
with high disposable incomes. The Riksbank still considers that households cannot generate losses for the banks to an extent that threatens the stability of the payment system. However, the accelerating growth of debt during 2004 does suggest that the proportion of households with very large interest payments could rise if interest rates move up again. Although the analysis does suggest that the financial situation in the Swedish household sector is still robust in general, with satisfactory margins for coping with rising borrowing rates and temporary losses of income, there is a risk of problems arising for individual households. Large interest payments do not by themselves mean that households are financially vulnerable but they can affect their future scope for consumption.

Figure 2:12. Household borrowing from credit institutions and house prices.
Index: 1986:1 = 100



Sources: Statistics Sweden and the Riksbank.

Figure 2:13. National and regional house prices
Index: 1986:1 = 100



Source: Statistics Sweden.

Household sectors in the other Nordic countries, Germany and the Baltic states

During the past year the Swedish bank sector increased its exposures to households abroad. Around a third of the banks' total lending abroad goes to households.

In Norway and Denmark, household borrowing has risen by around 10 per cent in annual terms in the past six months. House prices have increased at the same rate. In Finland the stock of household debt has grown more quickly even though the increase in house prices has been below the Nordic average. In none of the Nordic household sectors are there any signs of a future decline in the ability to service debt.

Household borrowing in Germany has grown at a twelve-month rate of just over 2 per cent and during the past year the debt ratio has remained unchanged at 110 per cent. This development is largely related to the low activity in the German residential property market, where house prices have been virtually unchanged. The ability to service debt in the German household sector is considered to be satisfactory in general, though loan losses have recently tended to rise.

In the Baltic states the high economic growth has been accompanied by a rapid increase in credit. During the past six months, debt stocks in the Baltic household sectors have continued to grow by between 40 and 80 per cent in annual terms. House prices have also risen sharply in this period. In a broad perspective, however, traditional indicators of financial stability, such as debt and interest expenditure ratios, are still comparatively low and at present no clear risks for the banks are associated with the Baltic household sectors.

All in all, the credit risk associated with lending by the Swedish bank sector to households abroad is judged to be still low. The risks associated with the persistently weak economic trend in Germany and the growth of credit in the Baltic states are not of a kind that can lead to the Swedish payment system being exposed to serious strains.

The real-estate market

HOUSING

The expansion of household sector debt makes it important to follow the development of prices in the market for housing. As mentioned earlier, house prices are closely linked to debt and of interest as an indicator of household wealth (see Figure 2:12).¹⁶

The average level of house prices rose almost 10 per cent during 2004 and preliminary statistics for the early months of 2005 indicate that the rate has remained almost as high. There are, however,

¹⁶ About 45 per cent of households in Sweden live in owner-occupied houses, which serve as collateral for almost 80 per cent of house mortgage loans to households. About 15 per cent live in tenant-owned housing, which serves as collateral for rather more than 15 per cent of house mortgage loans.

relatively large regional differences (see Figure 2:13). A continued increase in house prices is indicated by the improvement in household disposable income and the prospect of interest rates being somewhat lower than assumed earlier.

Rapid increases in house prices and debt have been observed in many countries since the mid 1990s, not least in Australia and the United Kingdom. General characteristics of this development have been a marked increase in household disposable income and comparatively low real as well as nominal interest rates. The house price rise in the past decade can be explained to a large extent by fundamental factors, such as lower interest rates and increased disposable income, though more speculative tendencies can be seen in some places. Still, the rate of increase differs considerably between countries (see Figure 2:14). The development in Sweden has been in line with the international average.

To a large extent, the country differences mirror fundamental differences between the national housing markets, such as the tax system (the right to deductions and the taxation of wealth), the degree of regulation and conditions for housing finance. In Sweden, moreover, new construction and thereby the supply of dwellings has been very low compared with other countries since the beginning of the 1990s (see Figure 2:15). This is probably a major explanation for the rapid increase in Swedish house prices over the past decade.

In addition, migration to the metropolitan areas has risen in recent years and together with the sluggish supply, this demand has probably driven house prices up.

THE COMMERCIAL PROPERTY MARKET

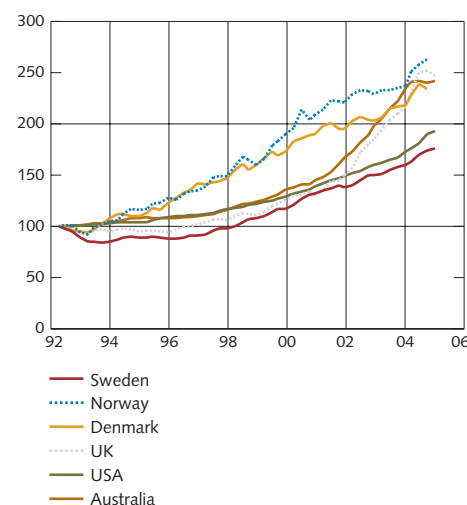
Developments in the commercial property market are of interest in the context of stability because real-estate companies are major borrowers from the banks. The focus here is on office premises and apartment buildings, as such real estate makes up the major share of the portfolios of the listed property companies. The markets for retail premises and industrial property are considered only briefly.

In the market for office premises, weak demand since 2000 has led to increased vacancies and falling rents and prices. Last year, however, prices and rents showed signs of a stabilisation, though the picture is not uniform. Developments differ between the metropolitan areas as well as between different types of property.

Prices have risen in Q1 this year in all the metropolitan areas and most clearly in Malmö (see Figure 2:16). Rents also rose in this quarter in Stockholm as well as Malmö but went on falling in Göteborg (see Figure 2:17).

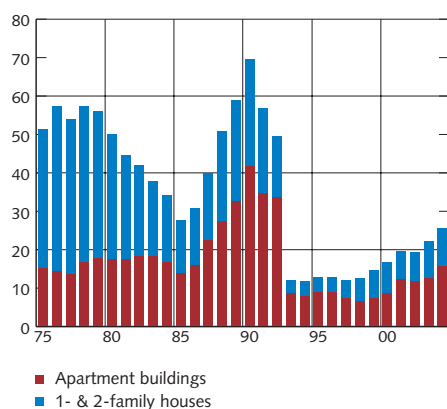
With low demand for office premises in connection with a weak labour market trend, vacancy rates have been rising since 2000 (see Figure 2:18). In 2005 Q1, however, the vacancy rate in Stockholm tended to fall and the rate in Malmö was stable, whereas in Göteborg it went on rising on account of weak demand and somewhat higher new construction.

Figure 2:14. Nominal house prices.
Index: 1992:1 = 100



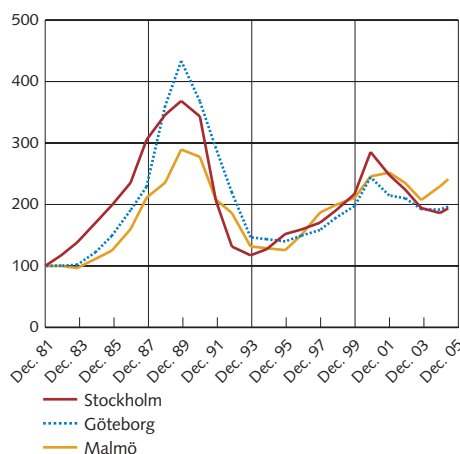
Sources: Ecowin and the Riksbank.

Figure 2:15. Housing starts.
Thousands of dwelling units



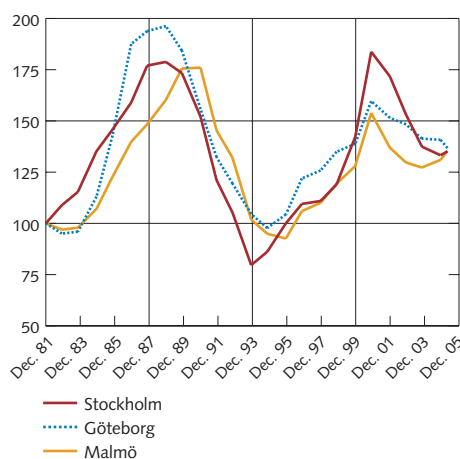
Source: Statistics Sweden.

Figure 2:16. Real prices of office premises in central locations.
Index 1981 = 100



Sources: Newsec AB and the Riksbank.

Figure 2:17. Real rents for office premises in central locations.
Index 1981 = 100



Sources: Newsec AB and the Riksbank.

Labour market developments are crucial for future prices, rents and vacancy rates in the office market. Given the Riksbank's assessment that the labour market will recover this year, there are conditions for increased demand and thereby a stabilisation of the market. A low supply of new office space is also expected to contribute.

In the market for industrial premises, values measured by the SFI/IPD index¹⁷ fell 3 per cent during 2004, though this was an improvement from the sharper fall in 2003. The value of retail premises rose during 2004, which was likewise an improvement from a fall the previous year.

In contrast to the development of prices in other commercial property markets, prices for apartment buildings have risen continuously since 1994. The price rise has also been considerably more rapid than the increase in rents, which are essentially determined by the regulations in this respect. As previously, the conversion of rented dwellings to tenant-owned housing cooperatives has been important for price developments. The combination of continued conversions, low new housing construction and strong housing demand in the metropolitan areas suggests that vacancies which might have a negative impact on rents and prices will not arise in the foreseeable future.

Activity in the Swedish real-estate market has been high in recent years. Turnover in 2004 totalled SEK 93 billion as against SEK 85 billion the year before. The interest displayed by foreign investors in recent years is continuing, though their share of total transactions has decreased. In 2004 non-resident players contributed 32 per cent of total real-estate investment compared with 77 per cent the year before.¹⁸

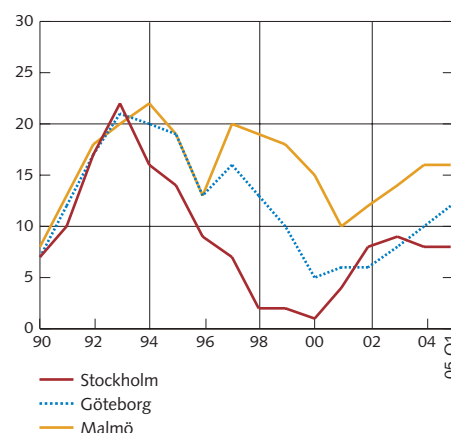
¹⁷ See SFI/IPD Svenskt Fastighetsindex (Swedish property index) 2004.

¹⁸ See Nordic Report Spring 2005 from real-estate consultants NewSec AB.

Summary

- Corporate borrowing has begun to rise again as a result of increased investment and this development is expected to continue. Meanwhile, firms are continuing to invest in the banking system.
- The capacity to service corporate debt is continuing to improve, with an increased return on equity and stable or stronger solvency in most industries.
- Corporate defaults are decreasing and this is expected to continue in the coming twelve months.
- In the other Nordic countries corporate borrowing has begun to rise, while the risk of default in the coming twelve months has decreased. Borrowing in the Baltic states is still rising, as are defaults, but the ability to service debt is still judged to be good. In Germany, defaults are rising marginally and credit demand is low.
- Households are continuing to borrow at an increasingly high rate. Persistently favourable economic activity and rising disposable income are expected to contribute to a continuation of household borrowing at an unchanged rate in the coming year. If interest rates move up in accordance with financial market expectations, a gradual slowdown in the growth of debt is foreseen in the years ahead.
- Households still have a low interest expenditure ratio. If interest rates move up in accordance with the market's expectations, the ratio will rise in the coming year. At the same time, as households are obtaining new loans at a variable interest rate to a growing extent, they will be more vulnerable to interest rate movements.
- Although the analysis does suggest that the financial situation in Sweden's household sector will remain good in general, with satisfactory margins for coping with rising borrowing rates and temporary losses of income, there is a risk of problems arising for individual households.

Figure 2:18. Vacancy rates for office premises in central locations. Per cent



Source: Newsec AB.

■ Developments in the banks

The major banks improved their profitability in 2004 from 2003, mainly due to the combination of increased commission income from rising equity prices and decreased loan losses. The Riksbank judges that the ability of the major banks to cope with unexpected losses is good.

The Riksbank's analysis of developments in the banking system concentrates on the four major Swedish banks – Föreningssparbanken, Handelsbanken, Nordea and SEB – because it is primarily these banks that are of crucial importance for the financial system's stability. Today, all these banks operate to some extent in markets abroad (see Figure 3:1). The analysis refers to the bank groups as a whole because it is the consolidated risk exposure of the banking system that is relevant for financial stability.¹⁹

The analysis focuses on the strategic risk in profitability, asset quality, the structure of funding and capital.²⁰

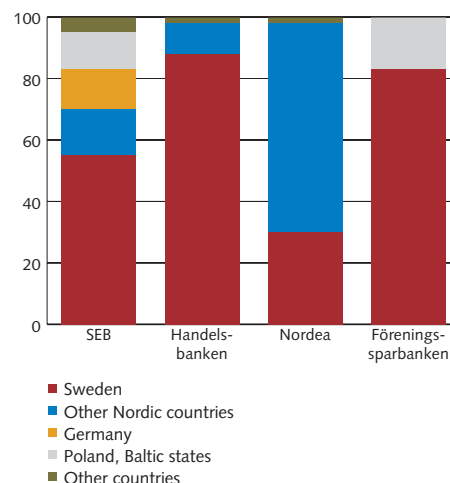
With the improvement in economic activity, stock-market uncertainty about the future earnings of the major banks has continued to decrease since the time of the December Report. This is mirrored in, for example, the implied volatilities of bank equity options, which have fallen for the major banks (see Figure 3:2). Distance to default, an indicator that is calculated from market data and financial statements, has risen for each of the major banks and accordingly also points to a decreased risk since the time of the December Report.

Profitability – strategic risk

The underlying earnings of the major banks (profit before loan losses at constant prices) have been rising steadily since mid 2003 as economic growth picked up. After a couple of quarters in 2004 when earnings rose more moderately, the rate strengthened again towards the end of the year (see Figure 3:3). Moreover, loan losses turned down towards very low levels in 2004. The difference between loan losses and earnings went on growing.

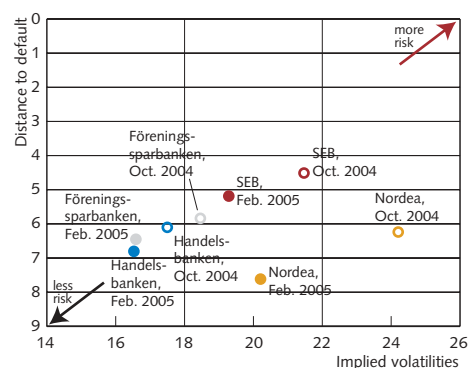
Profitability (the return on equity after tax) also rose from 2003 to 2004 and then tended to fall somewhat in 2005 Q1. Profitability in the latest four-quarter period was about 16 per cent.²¹ The driving forces behind profitability can be seen by decomposing it into profit margin, risk-adjusted income, risk level and leverage; an increase in the first two mirrors greater financial resilience and in the other two an increased risk.²² Such a decomposition indicates that the

Figure 3:1. Operating profit for 2004 by geographical origin.
Per cent



Note. For Nordea, Corporate and institutions as well as Treasury are broken down as Retail; operating profits for Asset management and Life are assumed to be proportional to the volumes. For Föreningsparbanken, operating profit is divided between Baltic states and Sweden. For Handelsbanken, Capital markets and Capital management are broken down as Retail; Pension, Insurance and Other operations are assumed to belong to operations in Sweden.

Figure 3:2. Stock-market indicators of risks – implied volatilities and distance to default.
Per cent, quarterly average



Note. The implied volatilities are calculated from three-month bank options; note that the greater the distance to default (inverted scale) and the lower the implied volatility, the smaller is the risk in the context of stability. Distance to default is expressed in terms of standard deviations.

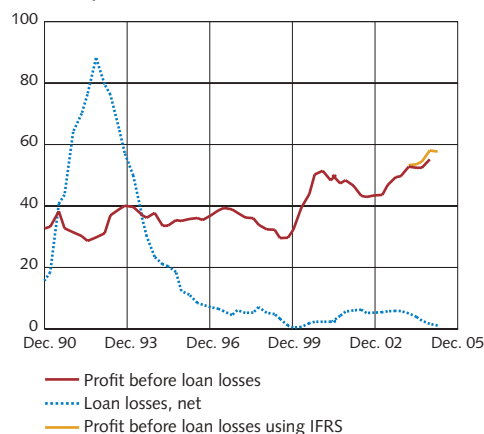
Sources: Bloomberg and the Riksbank.

¹⁹ The term major bank accordingly refers here to the bank group as a whole.

²⁰ As of 2005 the major Swedish banks present their accounts in accordance with IFRS (see also the box on pages 49–51 of this report). This makes comparisons with figures for earlier periods more difficult. Some of the comparisons here are made in annual terms, using the earlier accounting standards. The latest four-quarter period runs to the end of March. All results have been adjusted for sizeable one-off effects.

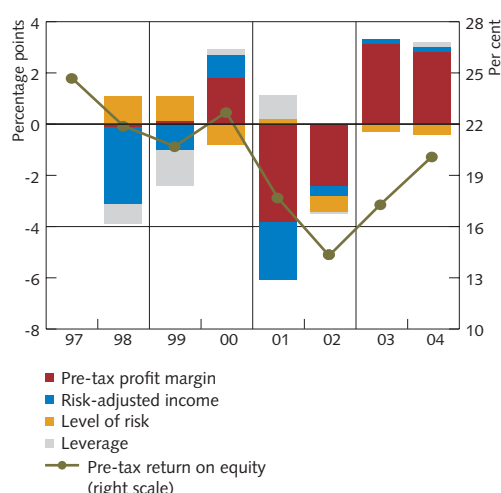
²¹ The return on equity does not include minority interests. Compared with earlier reporting periods, the new accounting standards have a positive effect on the return, mainly because goodwill is not recorded. Even with an adjustment for this the return improved.

Figure 3:3. Profit before loan losses and net loan losses in the major banks.
Four-quarter figures, SEK billion, 2005 prices



Sources: Bank reports and the Riksbank.

Figure 3:4. Pre-tax return on equity in the major banks.



Sources: Bank reports and the Riksbank.

improvement in profitability in 2004 was not due to increased risk but was primarily an effect of higher profit margins (see Figure 3:4).²³

A majority of the major Nordic banks²⁴ have successively increased their return on equity since 2002, when returns were relatively low on account of a couple of years with weaker GDP growth and falling stock markets (see Figure 3:5). For most of these banks, however, the annual return on equity in 2004 was not as high as in 2000 before stock markets fell.

INCOME

The income of the major banks has been rising comparatively steadily since mid 2003.

After the stock market fall at the end of 2000, the growth of bank income slackened successively up to mid 2003, mainly because income from equity transactions decreased and the value of financial assets fell. During these years the banks were increasingly dependent on net interest income in that receipts from lending and deposits partly offset the loss of income from equity transactions. In mid 2003, net interest income made up two-thirds of the banks' total income. With the stock market recovery, equity-related income has recovered a larger share of total income and the share for net interest income has fallen back to about 60 per cent in 2004. With the new accounting standards, however, net interest income's share of total income is liable to be somewhat smaller, partly because changes in the value of financial instruments can make up a larger proportion of income in periods when market values are rising.

Net interest income was virtually unchanged in the latest four-quarter period. The size of this item is primarily dependent on the volumes of bank deposits and lending together with the size of interest spreads. As the volume of lending went on rising in the latest four-quarter period, the lack of an increase in net interest income is mainly explained by a decreased net interest margin, that is, the relationship between net interest income and lending to the public and to credit institutions (see Figure 3:6). One explanation for the decreased margin may lie in the growing share for house mortgage loans in the banks' portfolios. These loans are arranged with residential collateral, which gives a lower risk, so their margin is smaller than for loans that have weaker or no collateral (see also the section on credit quality).

The lower net interest margin can also be explained by pressure on margins. Deposit margins in the Swedish market have been falling since the end of 2002 as a consequence of the successive decline in

22 See the box on pages 35–36 in Financial Stability Report 2004:1, where the components are explained in more detail. A corresponding decomposition is presented in this report for the major Nordic banks; see the box on pages 40–41.

23 This breakdown of profitability does not consider to what extent profits have been generated by off-balance-sheet assets and the risks associated with them.

24 The reason for making certain comparisons between the major Swedish banks and four other major Nordic banks is that the former operate abroad; the other major Nordic banks also operate in broadly the same markets, though they are not regarded as systemically important in Sweden.

market interest rates. During 2005 Q1, however, there was some increase in deposit margins. The downward pressure on deposit margins from lower interest rates has been accompanied by increased margins on lending but the latter has not made up in full for the former. During 2004, moreover, there was some reduction of lending margins, mainly due to increased competition, particularly in house mortgage loans to the household sector.

As the competition will probably continue to grow, above all in the market for housing loans, an appreciable improvement in lending margins seems unlikely. One driving force behind this development may be the new capital adequacy rules (Basel II), which are to be implemented from the turn of 2006. They will entail lower capital requirements than at present. However, it is not clear to what extent this has already affected the banks' lending rates.

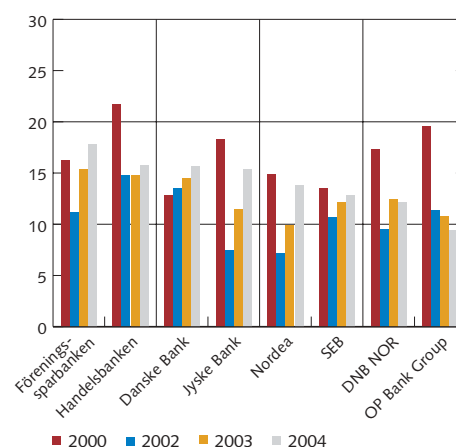
Deposit margins would probably widen if interest rates move up in accordance with market expectations.²⁵ On the other hand, there is the possibility of increased competition, for example because the banks no longer have a monopoly on deposits.²⁶

The pressure on margins means that an appreciable improvement in the growth of net interest income calls for a continued increase in volume. The recent increase in the volume of lending has come mainly from mortgage loans to the household sector. The growth of lending to the household sector is judged to remain strong this year but slacken after that (see the section on households). Lending to the corporate sector is expected to rise, with a continuation of the recent upward trend (see the section on the corporate sector).

The net commission income of the major banks rose in the latest four-quarter from 2003, though some slowdown was noted towards the end of the period. Part of the increase was due to rising stock-market prices and turnover, leading for example to higher bank income from securities trading and asset management. Securities-related commissions amount at present to almost half of total net commission income (see Figure 3:7). While these commissions usually generate a large share of an improvement in bank profitability when stock markets are rising, the income can decrease rapidly when stock markets fall. This source of income is volatile compared with payment commissions.

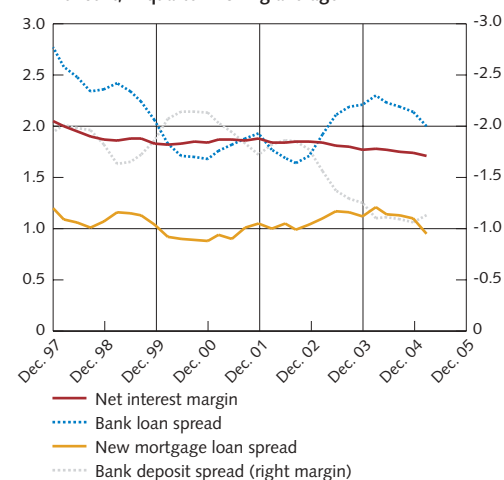
Payment commissions are affected in turn by, for example, the extent to which bank customers make transactions with bank, payment and credit cards. Income from payment commissions has risen successively in recent years and continued to do so in the latest four-quarter period. Payment-related commissions currently make up around a quarter of total commission income. The major banks also increased their insurance premiums in this period.

Figure 3:5. Post-tax return on equity.
Per cent



Note. DnB NOR 2000–2003 is pro forma.
Sources: Bank reports and the Riksbank.

Figure 3:6. Net interest margin and spreads for the major banks on deposits, bank loans and mortgage loans.
Per cent, 4-quarter moving average



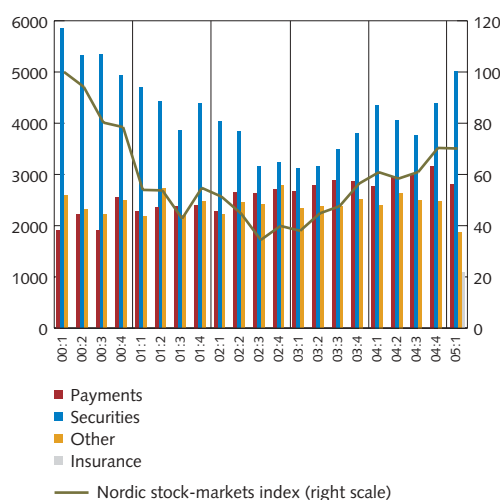
Note. The spreads are calculated as the difference between the average bank deposit or lending rate and the six-month treasury bill rate and between the average mortgage rate and the three-month treasury bill rate.

Sources: Bank reports and the Riksbank.

²⁵ See Inflation Report 2005:1.

²⁶ The bank monopoly on deposits came to an end at mid 2004, since when deposits may also be accepted by other companies.

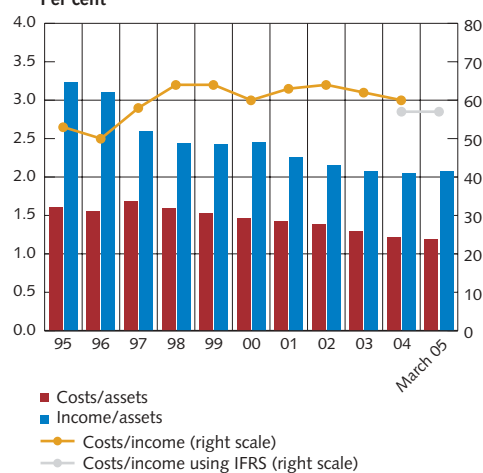
Figure 3:7. Net commission income in the major banks broken down by type of commission; and Nordic stock-markets index. SEK million and index



Note. Commission income adjusted pro forma for acquisitions. Föreningssparbanken's and SEB's net insurance income is not included in net commission income. Nordic stock-markets index from Financial Times.

Sources: Bank reports, EcoWin and the Riksbank.

Figure 3:8. Ratios of costs and income to assets and of costs to income. Per cent



Note. March 2005 denotes the latest four-quarter period, using IFRS.

Sources: Bank reports and the Riksbank.

Under the new accounting standards, the earlier item Net result of financial transactions is replaced by an item known as Operations at market values. Changes in the value of financial transactions in the banks' trading portfolios are included here. In the latest four-quarter period this item fell about 30 per cent, mainly in connection with decreased financial market volatility but also with lower interest earnings.

There are no clear indications of an increased risk in trading by the major banks. One indicator of this risk, value at risk (VaR), fell for the banks during 2004, which is partly explained by the lower market volatility. Another indicator that can mirror market risk is the changes in risk-weighted assets. Here there was some increase for the major banks in 2004, which gives a picture of increased bank volumes and positions accompanied by decreased volatility in the portfolios. However, risks can also be taken outside trading portfolios. During 2004, some of the banks increased their holdings of interest-bearing securities and lengthened the duration of the interest terms, which may point to a somewhat increased interest rate risk in these banks.

COSTS

The reduction of bank expenditures in recent years has been achieved mainly by cutting other costs than those for personnel; the latter have been comparatively unchanged despite staff cuts. One explanation for this is that staff reductions tend to entail costs for separation agreements, so that there is a lag before the changes result in lower staff costs. Neither have costs been lowered all that extensively in absolute terms because savings in some areas have been accompanied by an expansion of other operations.

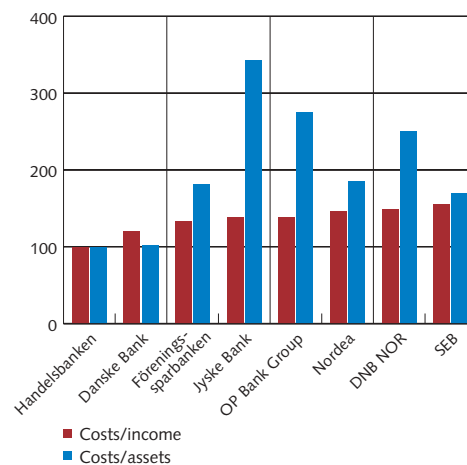
The level of the major banks' costs in 2004 was somewhat lower than in 2003. This was mainly due to decreased staff costs, partly in that operations were contracted out by some banks. While this reduces staff costs, it adds to other costs.

With some reduction of costs and increased income, cost efficiency went on improving (see Figure 3:8). The costs/income (C/I) ratio in the four-quarter period was 57 per cent.²⁷ With the earlier accounting rules this corresponds to a figure of 60 per cent, which is the same level as in 2000, when the ratio was improved by rising income. Today's cost efficiency has more to do with lower costs, as can be seen from the successive fall in the ratio of costs to assets.

²⁷ The new accounting standards have a positive effect on the C/I ratio, mainly because there is no amortisation of goodwill.

The C/I ratios of the major Swedish banks are spread across the entire interval for the major Nordic banks, which is partly explained by differences in the composition of operations (see Figure 3:9). At the same time, the ratios of their costs to assets are below the average, which indicates that the principal challenge for the Swedish banks is to generate income at the current level of costs rather than to lower costs even more.

Figure 3:9. Annual ratios of costs to income and assets for 2004.
Index: Handelsbanken = 100



Sources: Bank reports and the Riksbank.

A comparison of the major Nordic banks' returns on equity

A bank can handle unexpected negative shocks in various ways. The first buffer is the bank's profits. Bank earnings are therefore pertinent for stability because good profitability leads as a rule to a larger capacity for handling unforeseen negative shocks. The more risks a bank takes, the higher its expected profitability needs to be so that actual profits suffice to cover any losses the risks may entail. Profitability is usually measured as the return on equity (ROE), that is, the ratio of profits to equity. However, a bank with a higher ROE than its competitors will not necessarily be in a better position to cope with unexpected losses. A higher ROE may, for example, be due to the bank having less capital, so that it takes greater risks.

The driving forces behind profitability can be analysed by decomposing ROE into four factors: profit margin, risk-adjusted income, risk level and leverage from borrowing.^{28, 29} This gives the following:

Virtually all the major Nordic banks have increased their profitability since 2002. The improvement is greatest for Nordea, Föreningssparbanken and Jyske Bank. The explanation for Nordea och Föreningssparbanken lies in higher profit margins and some improvement in risk-adjusted income. In other words, the increased ROE represents greater financial strength, which can be seen as positive for stability. Profit margins also rose for the other banks and contributed to a higher ROE. For some of the banks, the improvement in ROE also came from increased leverage, which can mean that they have taken more risks. This was offset, however, by lower risk levels. The negative relationship between the change in risk level and leverage can be partly explained by unduly high risk – in the form of a high risk level as well as high leverage – probably leading to a poorer rating and thereby higher funding costs. This means that a bank which increases leverage deliberately

$$\text{Pre-tax ROE} = \underbrace{\frac{\text{pre-tax profit}}{\text{operating income}}}_{\text{Profit margin}} \times \underbrace{\frac{\text{operating income}}{\text{risk-weighted assets}}}_{\text{Risk-adjusted income}} \times \underbrace{\frac{\text{risk-weighted assets}}{\text{total assets}}}_{\text{Risk level}} \times \underbrace{\frac{\text{total assets}}{\text{equity}}}_{\text{Leverage}}$$

Impact of an increase on financial stability

	<i>positive</i>	<i>positive</i>	<i>negative</i>	<i>negative</i>
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²⁸ This decomposition of ROE has been used previously by the Riksbank for the four major Swedish banks in Financial Stability Report 2004:1; a more detailed account is given there of how the components of ROE are expected to affect a bank's financial strength.

²⁹ The pre-tax profit margin measures the margin between incomes and expenditures. Risk-adjusted income measures a bank's efficiency on a risk-adjusted basis. Risk level refers to the level of a bank's credit risk and leverage measures the effect of debt. Note, however, that this approach disregards off-balance-sheet exposures and how they affect a bank's risk profile.

lowers its risk level and vice versa.³⁰ All in all, there are no indications that the banks markedly increased their risks in order to achieve a higher ROE from 2002 to 2004.

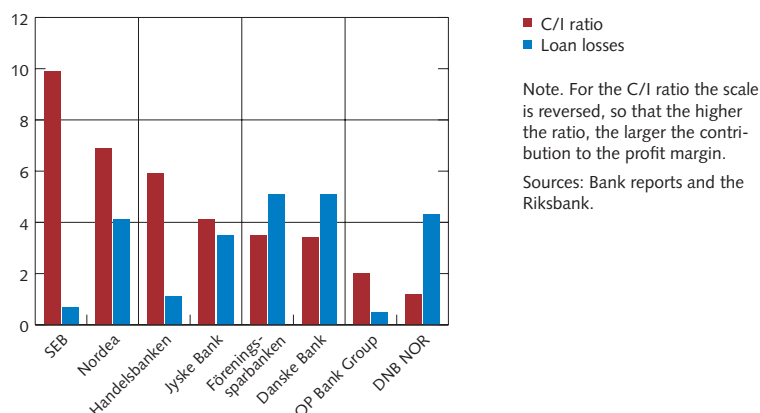
The fact that the profit margin and thereby ROE improved for every bank makes it interesting to elucidate the driving forces behind the profit margin. This can be done by decomposing the profit margin into the cost efficiency ratio (C/I) and loan losses³¹ as follows:

$$\text{Pre-tax profit margin} = \frac{\text{C/I ratio}}{\frac{\text{expenses}}{\text{income}}} - \frac{\text{Loan losses}}{\frac{\text{loan losses}}{\text{income}}}$$

Impact of an increase on financial stability negative negative

From Figure B3 it will be seen that cost efficiency, measured as the C/I ratio, improved in the period for every bank and contributed to the increased profit margins. Profit margins also benefitted from decreased loan losses. The fact that loan losses for SEB, Handelsbanken and the OP Bank Group did not fall as much as for the other banks is mainly explained by their loan losses having been relatively smaller in 2002 (see the section on loan losses in Chapter 3).

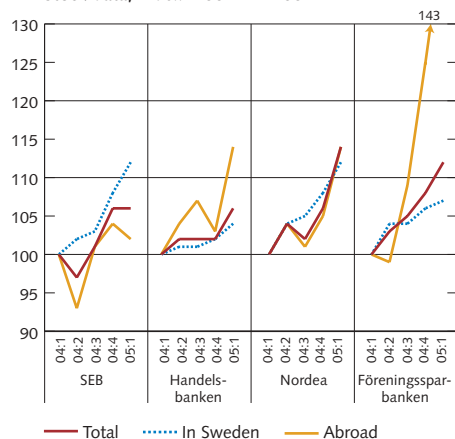
Figure B3. Contributions to profit margins 2002–04. Percentage points



³⁰ Calculated in this way, however, the level of risk only shows a bank's credit risk in accordance with Basel I, which stipulates a certain capital for a certain lending; that does not necessarily mirror the actual risk in bank lending. Basel II, due to be implemented at the turn of 2006, will alter this to some extent.

³¹ This approach was used by the Bank of England in *Financial Stability Review*, June 2004.

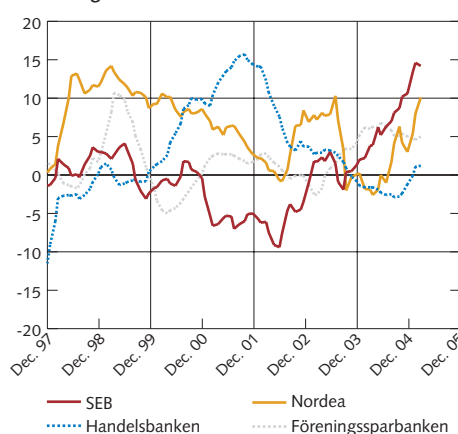
Figure 3:10. Lending to the general public in Sweden and abroad.
Stock data, index: 2004:1 = 100



Note. Lending by Föreningssparbanken has been adjusted for the sale of FI-Holding and a write-up of Hansabank.

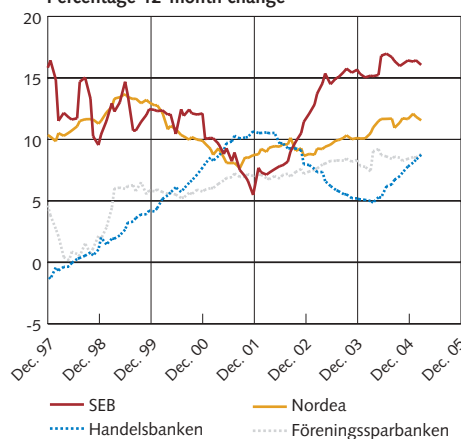
Sources: Bank reports and the Riksbank.

Figure 3:11. Lending by credit institutions to firms in Sweden.
Percentage 12-month change, 3-month moving average



Source: The Riksbank.

Figure 3:12. Lending by credit institutions to households in Sweden.
Percentage 12-month change



Source: The Riksbank.

Assets – credit risk

The assets of the major banks rose about 8 per cent in the latest four-quarter period. The increase mainly reflected the growth of lending to the general public. The value of interest-bearing securities fell, as did interbank claims, while other assets rose.

LENDING

Historically, problems with credit in the banking sector have often been preceded by a rapid growth of lending, so this can serve as a warning of risks. In the Nordic market the four-quarter growth of lending to the household sector at the turn of 2004 was typically in the region of 10 per cent. The growth of lending to the corporate sector varied more between the countries, ranging from 1 to 7 per cent. Lending in the Baltic states was still rising rapidly, with twelve-month rates between 30 and 45 per cent, whereas in Germany the level was largely unchanged.

The total loan stock of the major banks grew by around 10 per cent in the latest four-quarter period. Growth for Nordea and Föreningssparbanken was above 10 per cent, while for the other two major banks it was around 6 per cent (see Figure 3:10). The banks differ in the extent of their establishments abroad. Lending outside Sweden is relatively large for Nordea and SEB, while the other two banks are more concentrated to the domestic market (compare the breakdown of the return on equity in Figure 3:1). Lending by Nordea is growing at much the same rate abroad as in Sweden, while SEB increased its lending more rapidly in Sweden; for both Handelsbanken and Föreningssparbanken, lending growth is higher abroad.

Corporate lending in the Swedish market picked up tentatively towards the end of 2004 after a couple of years of relatively low demand. The picture was not uniform between the banks: SEB noted an average growth rate of about 9 per cent, whereas corporate lending decreased slightly for Handelsbanken, while Nordea and Föreningssparbanken had growth rates between 3 and 5 per cent (see Figure 3:11).

The growth of lending to the household sector in Sweden has continued to accelerate, almost entirely in the form of increased house mortgage loans. In the latest four-quarter period, lending by the major banks rose by an average of around 10 per cent, the highest rate since the early 1990s. Here, too, the banks differed, with rates of about 12 and 16 per cent, respectively, for Nordea and SEB, while the rates for Handelsbanken and Föreningssparbanken were between 7 and 9 per cent (see Figure 3:12).

CREDIT QUALITY

The sector breakdown of a bank's portfolio can serve as a rough indicator of the degree of diversification. In recent years the changes in this respect have been marginal, except that the share for households' mortgage loans has grown to 35 per cent of the major banks' credit portfolios at the end of 2004 (see Figure 3:13). The increased proportion of these mortgage loans means that today a larger proportion of the banks' credit portfolios carries a lower risk in that mortgage loans are secured with residential property. Weighted for credit risk, the banks' assets have accordingly decreased successively in relation to the loan stock (see also the earlier discussion of net interest income). However, higher mortgage limits in relation to the value of housing may have somewhat increased the risk in residential loans. The total stock of loans to the household sector represents about 45 per cent of the credit portfolio. Loans to property companies make up about 20 per cent, which means that this is the industry to which the banks are most exposed.

During 2004 there was increased lending to financial and insurance companies as well as to agriculture and fisheries, whereas lending to the manufacturing sector fell.

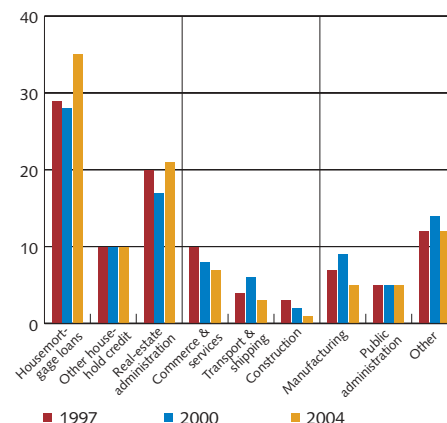
The quality of a bank's credits is indicated by the ratios of impaired loans and loan losses to the total stock of loans.³² The falling trend for the major banks' impaired loans in recent years has continued. At the end of March the level of impaired loans was at a record low of less than 1 per cent of loans to the public.

Loan losses also continued to decline and the level at the end of the four-quarter period was less than a quarter of the losses in the preceding period. Loan losses decreased for all the major banks but most for Nordea. The reduction comes entirely from decreased provisions for new and expected loan losses (see Figure 3:14). To sum up, there is nothing in the reports to suggest that the quality of credit has deteriorated in recent quarters.

The current improvement in economic growth in the Nordic area, together with low interest rates, is also mirrored in the loan losses of the other major Nordic banks (see Figure 3:15). With the exception of Jyske Bank in Denmark, all these banks report markedly reduced loan losses in 2004. For Danske Bank this even made a positive contribution to profits in that recoveries and reversals for earlier loan losses exceeded provisions for new loan losses.

Given the Riksbank's main scenario with continued economic growth, it seems unlikely that loan losses will rise markedly for cyclical reasons. The fact that the expected rate of corporate sector defaults fell in the latest four-quarter period also points to future loan losses

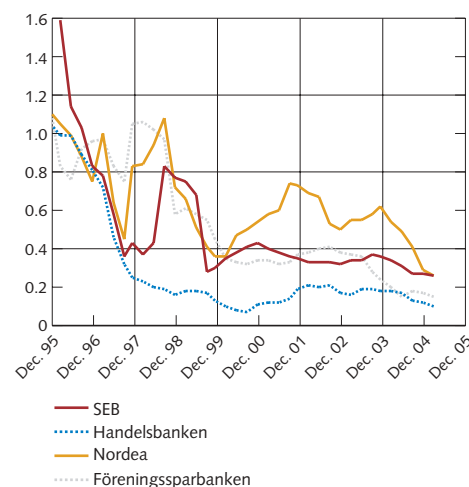
Figure 3:13. Sector distribution of the major banks' loans to the general public.
Per cent



Note. The increase to real-estate companies for 2004 is explained by the inclusion as of that year of Handelsbanken, for which the proportion of loans to this industry is higher than for the other three major banks.

Sources: Bank reports and the Riksbank.

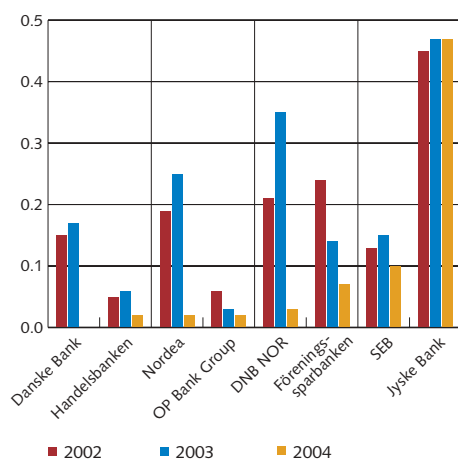
Figure 3:14. Provisions for incurred and probable loan losses.
Per cent of lending, accumulated over four quarters



Sources: Bank reports and the Riksbank.

³² Impaired loans are gross before accumulated reserves; loan losses are calculated as the net of provisions for actual and expected loan losses after recoveries and reversals. The levels of both indicators are affected by the somewhat increased volumes of bank loans that IFRS entails. However, the consequences of this are marginal. The item Impaired loans is also affected in that IFRS does not allow certain general provisions.

Figure 3:15. Loan losses, net.
Per cent of loan stock



Note. DNB NOR 2000–2003 is pro forma.

Sources: Bank reports and the Riksbank.

being low. However, expected default rates did rise in some industries and if the increase were to continue, it would of course have some impact on the banks' loan losses.

Other, less uncertain factors are the risks associated with the rapid increase in lending in the Baltic states if the prevailing economic growth were to turn into a substantial slowdown. However, the operations of the major Swedish banks in the Baltic states represent just a limited share of their total operations.³³

COUNTERPARTY EXPOSURES

The central role of the major banks in the Swedish markets for currency, deposits, securities and derivatives results in considerable exposures to counterparties and settlements. As these exposures are primarily to other financial institutions and large non-financial companies, the risk of default is low. But if a default were to occur, the consequences for other banks could be serious. In the context of stability, these risks are particularly relevant when the counterparty is a bank or some other financial institution, since that entails the risk of a problem in one of these institutions spreading to the others.

In order to examine the risks of contagion within and to the Swedish banking system, since 1999 the Riksbank has compiled data on the counterparty and foreign exchange settlement exposures of the major banks. This has been done by regularly testing the level of Tier 1 capital assuming that the Tier 1 capital of each major bank is reduced by 75 per cent of the amount of its largest corporate and interbank exposure, respectively. The assumption that 25 per cent of the lost exposure is recovered allows for the existence of collateral for a part of the exposure. The test accordingly represents the extreme situation in which a bank's largest counterparty (a major company or another major bank) suspends payments with immediate effect with no advance warning and the possibility of recovery is judged to be comparatively small.³⁴

Over the years, foreign exchange settlements have turned out to account for a relatively large proportion of the banks' exposures. The risk in these exposures has decreased markedly in that the Swedish krona is participating in Continuous Linked Settlement (CLS) since September 2003 but this is not evident from the Riksbank's data.³⁵ According to the banks, between 35 and 65 per cent of their total currency trading is now settled through CLS.³⁶ Given this, it is of interest to see whether and how risks of contagion in the financial system have been reduced. In order to estimate the impact of CLS, the same test as in earlier reports has been carried out with the new assumption that all settlement exposures in the period are reduced by

³³ The share will be increased, however, through Förenings-sparbanken's acquisition of all the equity in Hansa-bank.

³⁴ These tests have been published regularly in the Financial Stability Report since 2001.

³⁵ To date the reporting form has not been adapted to the possibility of handling foreign exchange settlement risks through CLS.

³⁶ The study has been presented more fully in Chapter 4 of Financial Stability Report 2004:2.

35 per cent, which according to the banks corresponds to the lowest figure for their current use of CLS.

If one of the major banks were to lose the whole of its largest exposure, during the reporting period the Tier 1 capital ratio would have fallen below the statutory requirement of 4 per cent in a quarter of the cases. If settlement via CLS had been feasible, on the other hand, the number of failures in the period would have been halved (see Figure 3:16). To meet the statutory solvency requirement in every case, settlement via CLS would have been necessary for 57 per cent of foreign exchange trading. According to one or several of the banks, this level of settlement has already been achieved.

The risk of contagion between the major banks would also be halved, given the use of CLS. The reported exposures indicate that a suspension of payments would have led to failure to meet the solvency requirement in 6 per cent of the cases. With 35 per cent of settlements via CLS, the proportion of failures in the same period is reduced to 3 per cent.

For the most critical outcomes of contagion between the major banks, with a Tier 1 capital ratio around 2 per cent, failure could not have been prevented even if CLS handled 100 per cent of the settlement exposures. The reason is that in these periods, counterparty exposures of other types, mainly deposits, were considerably above the average.

To sum up, the tests show that with the current use of CLS, the risk of contagion both within and into the Swedish banking system should at least have been halved. The possibility of reducing foreign exchange settlement exposures by using CLS accordingly seems to be an efficient way of reducing the risk of contagion in the Swedish financial system.

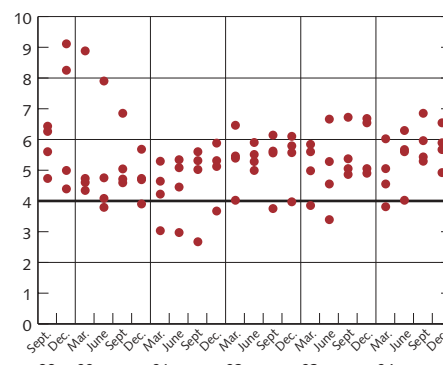
Funding – liquidity risk and capital

One of the most important economic functions of the banking system is the conversion of liquid liabilities in the form of deposits and borrowed funds into illiquid assets in the form of loans. The particular nature of banking – with short-term deposits and long-term credit – makes the banks vulnerable to problems with funding. The structure of bank funding is therefore a central issue for stability.

Of the major banks' liabilities, 80 per cent are interest-bearing funding. Deposits from the general public make up 40 per cent of this component and market funding 60 per cent. Deposits from the general public are normally a stable form of funds. Market funding is likely to be more volatile in that players in the interbank and securities markets are sensitive to ratings and confidence. If a bank's capacity for meeting its commitments is questioned, these sources of funds would presumably dry up first.

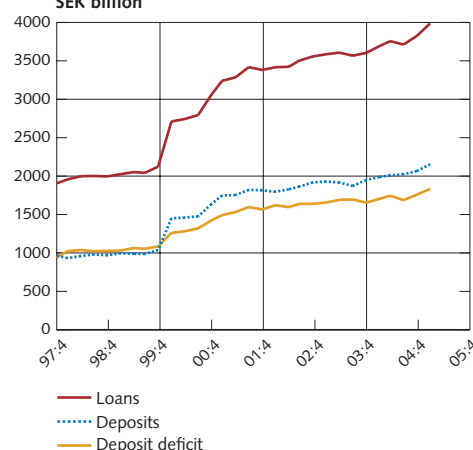
Since the early 1980s the major Swedish banks have had a deposit deficit in their domestic market – lending to the public has

Figure 3:16. Tier 1 capital ratio in the four major Swedish banks after a default of their largest counterparty. Recovery 25 per cent; 35 per cent of foreign exchange settlements is assumed to go via CLS.
Per cent



Source: The Riksbank.

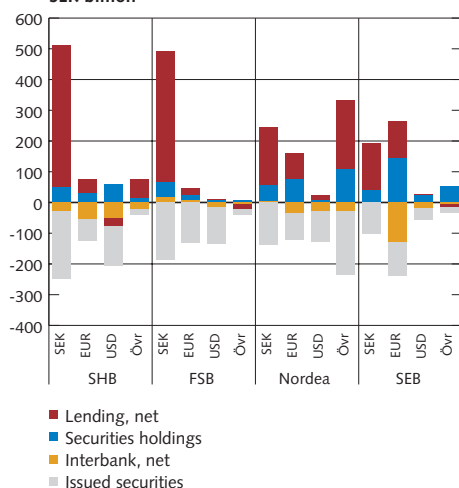
Figure 3:17. The major banks' deposit and loan stocks.
SEK billion



Note. The shift at the turn of 1999 is a consequence of mergers and acquisitions.

Sources: Bank reports and the Riksbank.

Figure 3:18. Structure of funding by the four major banks. SEK billion



Sources: Bank reports and the Riksbank.

exceeded deposits. In 2004 the deposit deficits of the four major banks totalled more than SEK 1,700 billion (see Figure 3:17).

The funding gap (the ratio of net lending to total lending) indicates the proportion of lending that is not covered by deposits and therefore has to be financed in the market. To varying degrees, each of the four major banks is dependent for funds on the interbank, bond and certificate markets. Föreningssparbanken and Handelsbanken have funding gaps of about 60 per cent, while the gaps for Nordea and SEB are smaller, about 35 per cent. The market funding requirement differs between the banks on account of differences in the composition of their operations. Föreningssparbanken and Handelsbanken have relatively large operations in house mortgage lending, which entail a large requirement for securities funding.

The major Swedish banks undertake market borrowing in foreign currency on a substantial scale. Previously they borrowed abroad in the interbank and securities markets to fund loans to the Swedish public. Today, however, the major banks also conduct operations with the public abroad and therefore have to fund their deposit deficits in more than one country. As the borrowing is matched with the currency composition of the assets via swap agreements, funding in another currency does not normally entail an exchange risk.

The pattern of funding differs between the four major banks, both on account of differences in the location of the operations and depending on where funding is most favourable. Föreningssparbanken and Handelsbanken have large deposit and funding deficits in Swedish kronor because such a large proportion of their operations is located in Sweden. Handelsbanken funds a large part of its net lending in Sweden by issuing USD securities. Föreningssparbanken also uses the USD securities markets to a large extent but its funding in euro is substantial, too (see Figure 3:18).

Nordea and SEB have smaller funding gaps and a more uniform distribution of assets and liabilities in different currencies; this has to do with their large operations abroad. Nordea's substantial mortgage lending in Denmark is mainly funded in the Danish securities market (Danish kronor are included in "other" currencies). Nordea also borrows on a relatively large scale against USD securities to fund parts of its operations in Denmark and Sweden in particular. For SEB, the major part of operations and thus of securities funding is in Sweden and Germany.

In the interbank market, Handelsbanken, Nordea and SEB are net borrowers in euro, US dollars and "other" currencies. The absence of corresponding positions on the lending side suggests that to some extent they use interbank borrowing to fund core operations. Föreningssparbanken's interbank borrowing is relatively limited; this borrowing in US dollars and "other" currencies is matched by interbank deposits in Swedish kronor and euro.

To sum up, Handelsbanken, Föreningssparbanken and Nordea can be said to have a large part of securities borrowing in US dollars and euro to cover funding gaps in Swedish kronor and, in Nordea's case, also in "other" currencies. SEB's funding gap is covered mainly with equity and non-interest-bearing liabilities.

CAPITAL

The improved profitability of the major banks has generated increased capital. At the end of March the capital adequacy and Tier 1 capital ratios of these banks averaged 9.6 and 7.1 per cent, respectively (see Figure 3:19).

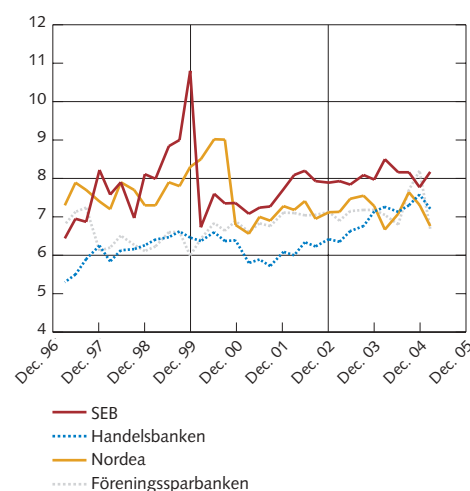
A natural consequence of the combination of an upward cyclical phase and rising capitalisation is either an equity buy-back, an increased dividend or investment to lower the capital stock. While less capital reduces a bank's buffer against unexpected losses, unduly high capitalisation may entail inefficiency and a poorer return. Pending attractive acquisitions or investment projects, of buying back equity is another way of reducing capital.

In order to adjust the structure of their capital, the major banks have drawn up buy-back programmes and increased their dividends. A proportion of the equity they have bought back has been cancelled, while some of it has been retained for use in any future acquisitions. Given the major banks' dominant shares of the Swedish market, any future acquisitions are likely to be made abroad and that could entail a future increase in strategic risk. During 2005 SEB has in fact announced an acquisition in Norway and Föreningssparbanken has acquired additional equity in its Baltic subsidiary, which shows up in the falling Tier 1 capital ratio.

The Tier 1 capital ratios of the major Swedish banks are somewhat lower than those of most major European banks. A reason for this can be that the Swedish banks have a larger proportion of low-risk operations, such as residential lending, and a smaller proportion of investment banking.

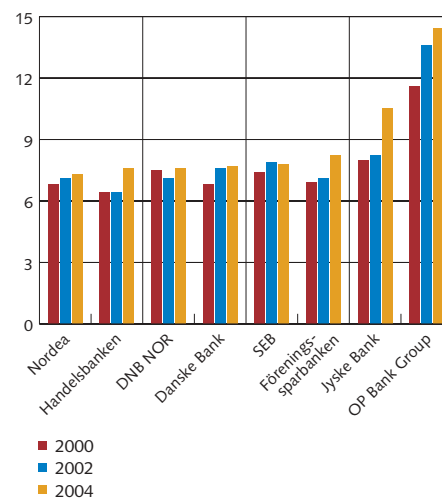
Tier 1 capital has also grown in the other major Nordic banks in the past two years and for a majority of them the level in 2004 was higher than in 2000 (see Figure 3:20).

Figure 3:19. Tier 1 capital ratios of the four major Swedish banks. Per cent



Sources: Bank reports and the Riksbank.

Figure 3:20. Tier 1 capital ratios of the major Nordic banks. Per cent



Note. DNB NOR 2000–2003 is pro forma.

Sources: Bank reports and the Riksbank.

Summary assessment

The profitability of the major banks continued to improve in the latest four-quarter period, from 2003, mainly because income from commissions rose in connection with rising equity prices and loan losses fell.

A continuation of favourable economic growth, leading to higher interest rates, could result in wider deposit spreads with a positive effect on net interest income. A major improvement in lending spreads seems unlikely, on the other hand, partly in view of the increased competition. The future growth of net interest income will therefore depend mainly on further increases in volume. However, the growth of lending to the household sector is expected to remain strong this year but slacken after that. Some increase is foreseen in lending to the corporate sector.

Loan losses are currently very low. Although greatly increased cyclical losses seem unlikely in the future, there are signs of a softening of borrowing terms in the form of longer periods for amortisation and lower collateral requirements. There are grounds for monitoring this development attentively.

The recent profitability of the banks is considered to have led to a further reinforcement of their capacity to handle unexpected losses.

The improved profitability can also motivate additional acquisitions. The major banks' dominance of the Swedish market makes it likely that any further acquisitions will be made abroad.

New bank accounting rules

As of 2005, listed companies in the European Community are required to present their group accounts in accordance with the International Financial Reporting Standards (IFRS).³⁷ The purpose of the new rules is to have accounts that give a fairer picture of a company's actual value and to harmonise national accounting practices so that it is easier to compare firms in different countries. The new standards (IFRS) will affect the financial statements of the major Swedish banks as regards their profits as well as their equity. This in turn will affect certain key figures that are used to describe a bank's financial position. The major changes occasioned by the new standards are described below.³⁸

Impact on the profit and loss account

When banks and other companies acquire an enterprise for more than the book value of the enterprise's assets, the difference is recorded as goodwill. Earlier accounting rules³⁹ have stipulated that goodwill is to be amortised by a certain amount annually, which has increased expenses in the profit and loss account. The rules have also called for additional goodwill writedowns if the value of the assets falls by more than the regular writedown; this is known as impairment of goodwill. Under the new standards, in order to give a fairer picture of the assets' actual value, only adjustments for goodwill impairment are permitted. This excludes the regular goodwill amortisation and thus a part of expenditure, which will have a positive effect on a bank's profits, especially in the short run (see Table 1).

Another change concerns financial assets and liabilities of a bank (mainly lending to the general public and to credit institutions,

securities, deposits and derivatives), which under the earlier rules were usually booked at original cost.⁴⁰ The new standards stipulate that some of these financial assets and liabilities (derivatives, for instance) are to be booked instead at their current market value. In some circumstances, it will also be permissible to book other financial assets at current values instead of original cost, as a result of the fair value option in the accounting standard IAS 39.⁴¹ Thus, the book value of a larger part than previously of the banks' financial assets and liabilities will be determined by the market. Changes in value between periods are to be presented in the profit and loss account and as such changes are liable to differ greatly between periods, the banks' profits will probably be more volatile in the future.⁴²

There is also a change as regards the banks' limited liability insurance companies. Unlike other subsidiaries, the earlier rules stipulated that the profit from such insurance companies was to be entered on a separate line in the legal profit and loss account. This can be likened to insurance operations having their own profit and loss account with just the end result visible in the consolidated account. Under IFRS, however, the incomes and expenses of insurance operations are to be booked together with the bank's other revenues and costs. This will increase both the incomes and the expenditures in the group's profit and loss account but it will not alter the end result.

Many banks have minority owners in their subsidiaries. Under the earlier rules, the banks booked minority owners' profit share as an expense. The new standards instead require minority owners' share to be included within profit, which will accordingly be increased. To make it possible to continue to distinguish

37 Note, however, that some components of the standards in IFRS still await EU approval. For example, some liabilities are not to be booked at fair values.

38 This account is based on information and calculations from the banks as to how the new standards will affect their financial statements. The discussion here does not cover all the changes.

39 The accounting rules that the major Swedish banks followed up to and including 2004.

40 Certain securities were, however, booked at their current value under the earlier rules. Those rules also permitted the valuation of other current assets either at their current value or with a choice between this and the original cost, whichever was the lower.

41 In accordance with the EU's implementation of the fair value option, liabilities that are neither derivatives nor included in the trading portfolio (in which case they are to be booked at current value) are not at present to be booked at current values, but this will presumably be changed.

42 In a certain type of hedge accounting (cash-flow hedges), changes in the value of derivatives are to be booked in equity; see under Impact on equity.

between what belongs to minorities and shareholders, respectively, information about this is to be presented in the profit and loss account. This change will affect Föreningssparbanken in particular, as the proportion of minority owners in its subsidiaries is greater than for the other banks.⁴³

The new standards will also affect the accounting of equity-related compensation to employees; this is to be booked as staff expenditure. The change will affect SEB, for example, in that the staff option programmes will entail increased expenditure and thereby lower profit.

All in all, the new standards for financial reporting will have a positive effect on the major banks' measured profit. It is estimated that if the banks had applied IFRS for 2004, profits would have been between 5 and 15 per cent higher than with the current rules, mainly because the absence of goodwill amortisation leads to decreased expense in the profit and loss account. In the case of Föreningssparbanken, the inclusion of minority interests also has a major impact. The lower expenditures also have a considerable effect on cost to income ratios, which with IFRS would have been between 2 and 3 percentage points lower for 2004.

Impact on equity

To make the new standards and their effects on the banks' financial statements more comprehensible, during 2005 the banks are required to compare their profits with 2004 as though the new standards had also applied then. Since the new standards do not allow regular goodwill amortisation, such amortisation during 2004 will be reassigned to equity. As a result, there will be a discrepancy in the amount of equity between 31 December 2004 and 1 January 2005; the opening value will change.

The opening value of equity will also be affected in that under the new standards, a

larger proportion of the banks' financial assets and liabilities is to be booked at market values and certain off-balance-sheet instruments, above all derivatives, are to be included in the balance sheet at current values. Large revaluations and the inclusion of additional instruments in the balance sheet naturally alter the amount of assets and liabilities and hence of equity. Whether the initial value will be increased or reduced depends, however, on the year-end current values. The four major banks report a negative effect on equity as a result of market valuations.

As a rule, banks hedge some future cash flows for various risks. Provided a bank meets certain criteria, this can be presented as hedged accounting. Such accounting is usually used with derivatives, which under the earlier rules were booked at either original cost or current value. As IFRS stipulates that derivatives are invariably to be booked at current value, cash flow hedges may lead to some volatility in equity. The reason is that while the derivatives that serve to hedge cash flows are booked at current values, the hedged item is booked at original cost; under IFRS, an accounting mismatch in the profit and loss account is avoided through changes in the value of derivatives being taken straight to equity, but this can nonetheless generate increased volatility in a bank's capital base.⁴⁴

In 2001 the Swedish accounting standards were revised to allow banks to make general provisions for loan claims that are valued individually. This was intended to enable the banks to be more forward-looking in their provisions for loan losses. This revision was based on an earlier version of IFRS and the new version entails some changes. The banks will not be allowed to make such large general provisions as they were earlier. However, IFRS also requires that provisions are made separately for groups of loans with similar risks. This affects the banks in different ways. Nordea has to reclassify certain general provisions and dissolve

⁴³ However, this should be smaller than Föreningssparbanken has reported earlier because Hansabank will become fully-owned by Föreningssparbanken.

⁴⁴ In that the cash flow of the hedged item is booked, the change in the market value of the derivative is also transferred from equity to the profit.

others. Dissolving provisions increases assets and thereby equity. The situation is different for Handelsbanken, which made no general provisions earlier and will therefore have to make additional provisions; this reduces assets and that in turn has a downward effect on equity. SEB and Föreningssparbanken do not state that the new standards will alter their provisions.

Besides being excluded from a bank's profits, in the past the profit due to minority interests was deducted from equity. IFRS, however, requires that minority interests are

included in capital, which seems natural in that their profit is to be included in total profits.

The effects of these changes on the opening value of the banks' equity lie in the interval -3 to +6 per cent. Two of the four banks report a positive effect and the other two estimate that the effect will be negative.

To sum up, the above improvement in profits, combined with the changes in the banks' equity, would have increased the return on equity in 2004 by 1 to 2 percentage points. In future, however, bank profits will very probably become more volatile in that financial assets will be booked to a greater extent at market values.

Table 1. Changes in financial statements and equity as a result of IFRS.

Profit & Loss Account (SEK million)	Föreningssparbanken	Handelsbanken	Nordea	SEB
Post-tax profit 2004	8 592	9 358	17 470	6 590
<i>Changes:</i>				
Goodwill amortisation	601	464	1 470	822
Option programmes				-55
Minority interests	756		27	17
Other		37		8
Post-tax profit 2004 using IFRS	9 949	9 859	18 967	7 382
Balance Sheet (SEK million)				
Shareholders' equity December 31, 2004	43 624	61 109	113 133	51 008
<i>Changes:</i>				
Goodwill amortisation	588	464	1 451	822
Market valuations /IAS 39	-788	-341	-361	-1 365
Aggregate provisions for individually-assessed loans		-360	631	
Minority interests	3 145		117	85
Other		-201	-406	-152
Shareholders' equity January 1, 2005	46 569	60 671	114 566	50 398
Costs/income 2004 (%)	54	43	60	67
Costs/income 2004 using IFRS (%)	52	41	57	64
Return on equity 2004 (%)	19.7	15.3	15.4	12.9
Return on equity 2004 using IFRS (%)	21.4	16.2	16.6	14.6

Note. IFRS also entails changes concerning the lines on which some receipts and expenses are to be recorded; these are not included here.
Sources: Bank reports and the Riksbank.

■ PART 2. ARTICLES

■ Private equity investment companies in Sweden

Although private equity investment companies have been active in Sweden since the end of the 1980s, it is primarily in recent years that they have become more significant players and attracted greater media coverage. The Swedish private equity market is the second-largest in Europe, measured in terms of its share of GDP. This article analyses private equity investment companies and their role in firms' capital supply. Only 25 per cent of the private equity goes to new companies. The majority of Swedish private equity investment companies, including the biggest ones, engage in leveraged buyouts of established businesses. Given that banks account for a large portion of the financing for leveraged buyouts, the article also discusses the banks' connection to private equity companies.

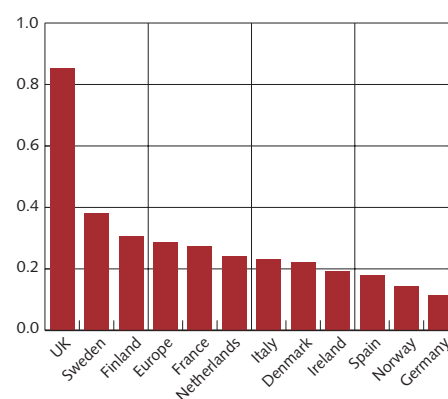
Companies that require external financing can generally turn to the credit market for loans or to the private equity market for equity. Private equity is investment in unlisted companies in the form of equity and is channelled mainly via private equity investment companies. Private equity investment companies have grown into significant players in recent years. The aim of this article is to describe and shed light on their activities.

Private equity investment companies that invest in unlisted companies are a phenomenon that originated in the United States. A private equity market has existed there since the 1950s, and private equity has constituted an investment alternative for institutional investors for the past 30 years. The US market is also the biggest and most developed. In terms of its share of the country's GDP, the private equity market in the United States is twice as large as the most developed market in Europe, that in the United Kingdom (see Figure 1).

Going by the same measure, the UK market in turn is just over double the size of the Swedish market, which nonetheless is the second-largest in Europe. Private equity markets tend to be most developed in countries whose financial systems are highly market-based, such as in the United States and the United Kingdom, and less developed in countries whose financial systems are to a large extent bank-based, for example in Germany.

The first private equity investment companies in Sweden were established at the end of the 1980s. The industry has grown rapidly, though, particularly in recent years, and according to the Swedish Private Equity and Venture Capital Association (SVCA) there are currently some 115 private equity investment companies that, combined, have access to capital of around SEK 220 billion. Of this figure, approximately SEK 115 billion has been used to acquire companies. That can be compared with Swedish non-financial companies' borrowing in the form of bonds and certificates, which totals SEK 330 billion, and their borrowing from credit market

Figure 1. Private equity investment as a share of GDP in selected European countries. Per cent



Source: European Private Equity and Venture Capital Association, EVCA.

companies in Sweden, which amounts to some SEK 1,224 billion.⁴⁵ Thus, investment via private equity investment companies is not an insignificant source of financing for the corporate sector.

The importance of Swedish private equity investment companies has been studied in a report by NUTEK (the Swedish Business Development Agency) and SVCA.⁴⁶ According to the report, companies financed by private equity investment companies in Sweden are estimated to employ almost 150,000 people, or nearly 7 per cent of all private sector employees. During the studied period – 1998 through 2003 – the number of employees and turnover of these companies grew three times as much as the companies quoted on the Stockholm Stock Exchange's A-list.⁴⁷

The article begins by describing the structure of the private equity market, after which it discusses the private equity market in Sweden. Finally, the article discusses the banking system's links to the private equity market.

Private equity investment companies invest in unlisted companies in the form of equity. Each investment or group of investments made by a private equity investment company, within a predetermined period, is financed through a private equity fund. The contributions to this fund are provided by a group of financiers, including a small share that is injected by the private equity investment company itself. A private equity investment company usually has a longer life than that of the individual funds set up by the company. Over time the company starts new funds and winds up old funds, e.g. when their specified period has expired or when their objectives have been fulfilled. The contributions to the private equity fund are, normally, first placed in a holding company. The sole purpose of this holding company is to own shares in the portfolio company in which the private equity investment company finally invests. Thus, the private equity fund is only one source of financing for the private equity investment company, which makes all decisions regarding acquisitions and divestments, borrowing, establishment and winding-up of funds, etc. The investors in the fund receive a return in various forms; the return depends on the result of the company's management of the acquired portfolio companies.

⁴⁵ Of this SEK 1224 billion, SEK 668 billion constitutes bank loans and SEK 408 billion loans from mortgage institutions. The remainder is borrowing from other credit market companies.

⁴⁶ See the report "Utvecklingen för riskkapitalbolagens portföljbolag 1998-2003" (Developments in risk capital firms' portfolio companies 1998-2003), R 2003:17, NUTEK and SVCA.

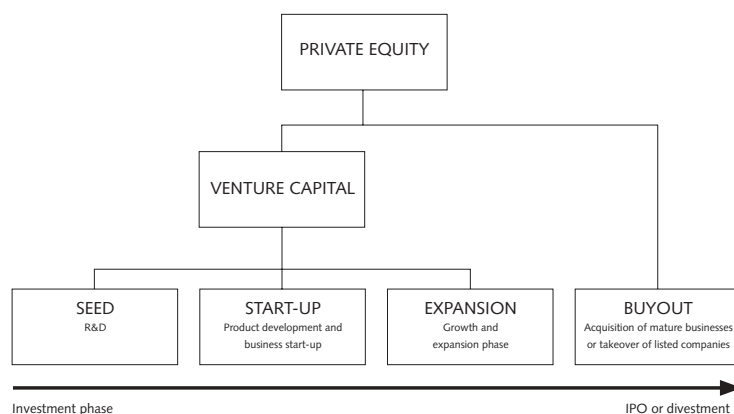
⁴⁷ In growth-related contexts, emphasis is often placed on the importance of having an efficient private equity market. In 1998, for example, an action plan for the private equity market was initiated in the EU – the Risk Capital Action Plan (RCAP). The RCAP stresses that the private equity market plays a crucial role in business start-ups and thus in job creation in the EU. Through a number of measures including the harmonisation of regulations for the financial markets and tax systems in the member states, the EU aims to promote the growth of a common private equity market. See, for example, the Communication of the European Commission entitled "Risk Capital: A Key to Job Creation in the European Union", SEC(1998) 552 and "Communication from the Commission to the Council and the European Parliament: On Implementation of the Risk Capital Action Plan (RCAP)", COM(2003) 654, which can be found on the European Union website, <http://europa.eu.int/scadplus/leg/en/lvb/l24195.htm>

General structure of the private equity market

INVESTMENT PHASES FOR UNLISTED COMPANIES

Equity capital investment in unlisted companies is channelled mainly via private equity investment companies that, through private equity funds, own unlisted companies (known as portfolio companies). Private equity firms' investments can essentially be divided into investments in early phases of a company's life cycle – *venture capital* – and investments in later phases of the life cycle – *buyouts* (see Chart 1).⁴⁸

Chart 1. The private equity market and different investment phases for unlisted companies



In somewhat simplified terms, early investment can in turn be subdivided into three different stages. Seed financing is financing provided to entrepreneurs to enable development of concepts or products that may lead to the start-up of a business. Start-up financing is financing to set up companies and develop products. Finally, expansion financing is financing provided for the growth and expansion of an existing company.

Generally speaking, investment at any of these early stages is a high-risk undertaking, since it involves the financing of newly started companies with weak cash flows and few tangible assets. Banks do not normally provide private equity as it is not part of their business concept. Entrepreneurs that want to develop their business must therefore either obtain loans secured on private assets, such as homes, or inject capital into the business by allowing a private equity investment company to become partner.

Buyouts, however, usually involve somewhat lower risk, since they entail investment in mature companies with more stable cash

⁴⁸ Another category of equity capital investment in unlisted companies is that carried on by business angels. Business angels are private investors who provide finance mainly to newly started businesses that have difficulty obtaining external funding even via private equity firms. Reliable information about this kind of informal private equity is difficult to find. One of NUTEK's tasks is to provide support to organisations that run regional networks for business angels. At present, NUTEK supports 18 different regional networks of this kind. In addition, NUTEK carries on projects that the business angel networks can take part in and benefit from.

flows and a larger stock of tangible assets. Buyouts chiefly comprise the acquisition of unlisted companies or the takeover of listed corporations. The private equity investment company partly finances the acquisition through loans, mainly from banks. This is known as a leveraged buyout (LBO). The borrowed funds are secured on the acquired company's assets and the idea is that future cash flows of the portfolio company will partly be used to amortize the acquisition loans.

Common to all private equity investment companies, regardless of their investment philosophy, is that they invest for a limited period of time. Private equity funds have different investment horizons depending on the portfolio company's investment phase. Seed financing usually involves the longest investment horizon, 10 to 12 years, while buyouts often have a horizon of 5 to 8 years. Irrespective of the portfolio company's investment phase, the private equity investment company in most cases is an active, controlling owner that collaborates closely with the portfolio company's management team with a view to improving the company's operating profit and cash flow, thus increasing its value. At the end of the period, the company is divested (the private equity fund 'exits' the investment). There are a number of exit options open to a private equity investment company: to sell to an industrial investor, that is to say, another industrial firm that wants to acquire the portfolio company for synergy reasons; to sell the company by initial public offering (IPO); or to sell it to another private equity investment company.

By virtue of their activities, private equity investment companies can be said to have created a niche in addition to the securities markets and lending by credit institutions. The business concept of providing unique expertise and tying up capital for a relatively long period with a view to restructuring companies requires a strong owner in each individual firm to be restructured.

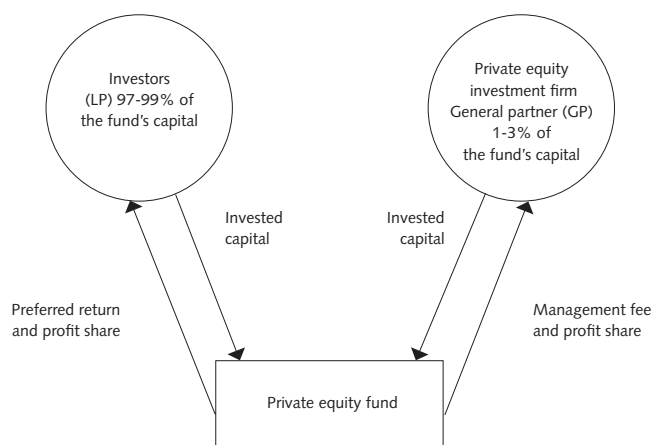
Efficient equity and bond markets facilitate private equity investment companies' activities. Liquid markets for listed equities are not just highly significant for private equity investment companies that are active in later investment phases, but also for those focused on early phases. Potential investors in early-phase private equity funds need to see that it is possible to sell the portfolio companies to other private equity investment companies with a focus on later investment phases, where IPOs of the portfolio companies' shares constitute a genuine option. An efficient corporate bond market benefits the private equity market primarily because it provides opportunities for private equity funds to refinance their investments in portfolio companies.

THE STRUCTURE OF PRIVATE EQUITY FUNDS AND THEIR PROFIT SHARING SYSTEMS

The infrastructure and design of the agreements that govern private equity activities have mainly evolved in the United States and have

practically become the standard for such business in other countries. Private equity funds are often limited partnerships. This kind of corporate structure consists of a general partner (GP),⁴⁹ which has unlimited liability to the fund's investors, and limited partners (LP) with limited liability (see Chart 2).

Chart 2. Structure of a private equity fund



There are two main reasons for this kind of structure:

1. Risk sharing – an active partner injects a small portion of the capital in the fund but assumes unlimited responsibility, while a passive partner, in the form of several investors, puts up the majority of the capital but takes on limited risk.
2. Tax transparency – that it is clear where the investors will be taxed and what tax they will have to pay.

The investors have limited liability in the sense that they cannot lose more than they have put into the private equity fund.

Given that the GP normally contributes only 1 to 3 per cent of the total managed capital in the fund and the passive investors the remainder, at the same time as the GP also decides which companies the fund is to invest in, there is a risk of a principal-agent problem between the investors and the GP. Consequently, all private equity funds have a profit-sharing system that creates incentives for the GP to act in the investors' best interests and generate the highest possible return for the fund.

The structure of this profit-sharing system is largely the same in all private equity funds. According to the system, the investors receive a preferred return that currently varies between 6 and 8 per cent. Besides the preferred return, the investors receive 80 per cent of the

⁴⁹ The general partner is often a limited liability company whose owners actively manage the portfolio companies.

profits in the fund, with the GP receiving the remaining 20 per cent. However, the return from the fund is not distributed to the investors and GP until the fund has been wound up and all portfolio companies sold.

The only regular compensation paid by the investors to the GP from the fund is an annual management fee of 1.5 to 2.5 per cent of the managed capital. This is intended to cover running costs for salaries, premises and consultant fees.

Private equity funds are normally commitment funds, meaning that the investors only make a commitment to invest in the fund, and contribute no capital until the GP asks for it. Once the GP decides to go ahead with a particular investment the investors have to pay in their share. When a company is sold the capital is returned to the investors after deducting any profits due to the GP.

The limited partnership structure is a legal arrangement that has been used for centuries to pool capital and manage risk, making it a well-established institutional form through which to carry on private equity activities. In combination with commitment funds, the limited partnership structure gives private equity investment companies the ability to request capital from their investors only when required for investments. This structure enables long-term investment and makes it possible for the private equity investment companies to avoid shareholders' demands for short-term profitability. Other corporate forms are, of course, also used, such as a limited liability company. In such a case the capital is tied up in the private equity investment company's balance sheet, which is costly while the company waits to invest.⁵⁰ The information requirements of the companies' financiers are considerable for both limited liability companies and limited partnerships. The former, however, are also subject to public disclosure requirements, not least those listed on a stock exchange.

Investors in private equity funds tie up their invested capital for a relatively long period; between 5 and 12 years depending on the investment philosophy. As a result, private equity investment companies are dependent on long-term relationships with their investors. The long investment periods also mean that the investors demand high standards of transparency in the firm's activities. Before pledging capital to the private equity fund, the investors carry out an in-depth investigation of the GP. The players themselves have developed standardised contractual arrangements with high standards, as well as extensive procedures for investigating the GP, in order to ensure that both the investors' and GP's best interests are served.

When the investigation has been completed, a contract is concluded between the investors and the GP in which the investment strategy and the GP's undertaking in relation to the investors are specified. The contract also makes the investors' payment

⁵⁰ In Sweden, limited liability companies have the advantage that returns on shareholdings are exempt from tax, which is a tax break not enjoyed by limited partnerships.

commitments to the fund binding for a specific period of time. The only way that the investors can get out of their commitments to the fund and receive back their money before the end of the contract period is to sell their shares in the fund to other investors, which is sometimes possible even though no developed secondary market exists.

The private equity investment firm's activities are checked regularly by the investors' legal representatives to make sure that the contract is being observed and the agreed investment plan followed. A comprehensive review of the GP is usually performed at regularly recurring intervals, around every four years.

Normally, the GP has the first half of the fund's life – the investment period – to acquire portfolio companies. Once the investment period has expired the GP does not make any new portfolio investments, only supplementary investments to those already undertaken. A GP can usually set up a new fund when 70 to 80 per cent of the previous fund's capital has been invested.

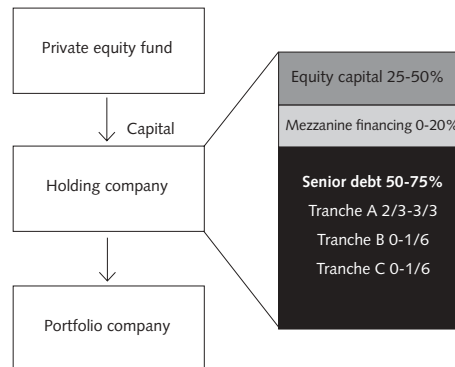
Because the funds most often are commitment funds the investors' financial position must be sound enough to assure the GP that the commitments can be met. For that reason almost all the investors are institutional investors.

FINANCING STRUCTURE FOR LEVERAGED BUYOUTS

The financing structure for the acquisition of portfolio companies varies somewhat between private equity funds with a focus on early-phase investment (venture capital) and funds with a focus on later-phase investment (buyouts). Venture capital funds only provide the portfolio companies with external financing in the form of equity capital. Buyout funds, on the other hand, combine equity capital with acquisition loans from external lenders.

With a view to isolating the risk taken by the fund when conducting a leveraged buyout, a holding company is formed for every portfolio company in which the acquisition loan is placed. The financing structure in the holding company is often indicated in terms of how big the respective sources of financing are in relation to the portfolio company's EBIT.

Chart 3. Leveraged buyouts



The financing structure and required rates of return associated with various financing sources for leveraged buyouts are relatively standardised (see Chart 3). Currently, the financing structure for leveraged buyouts is roughly that outlined below.

- The buyout is usually financed with equity capital from the private equity fund, and possibly also from the portfolio company's management team, corresponding to 2 to 2.5 times EBIT. Bank loans, or senior debt, account for 4 to 4.5 times EBIT, while mezzanine financing, in the event this is used by the private equity fund, may comprise around 1.5 to 2 times EBIT.
- The senior debt may be split up into several different tranches associated with different repayment terms regarding interest costs, maturities and debt-servicing. It is common to divide the loans into three tranches, referred to here as A to C. Tranche A has the shortest maturity, 7 years, and is repaid over the term of the loan. It comprises 60-70 per cent of the senior debt and has a required rate of return of 2.25 per cent above the risk-free rate. The other two tranches, B and C, are normally interest-only loans, each accounting for 15-20 per cent of the bank debt. Tranche B has a maturity of 8 years and a required rate of return of 2.75 per cent above the risk-free rate. The third tranche, C, has a maturity of 9 years and a required rate of return of 3.25 per cent above the risk-free rate. In addition to the interest on the loans the banks also charge a fee when setting up the loan facility, in the region of 2 to 3 per cent of the loan amount.
- Mezzanine financing is given by special mezzanine funds or mezzanine companies that specialise in this kind of lending, but also by banks. Mezzanine financing is provided without collateral from the borrower and comes after senior debt, but before equity capital, in order of priority in the event the portfolio company should go bankrupt. This financing is riskier than normal bank

loans and therefore warrants a higher rate of interest. Mezzanine loans have a term of up to 10 years and the required rate of return is roughly 10 to 11 per cent above the risk-free rate. Around 40 per cent of the interest is paid on a regular basis, whereas the remainder is accumulated and paid out when the mezzanine loan matures. In addition, it is common that this kind of financing incorporates options whereby the lender receives warrants – call options with long maturities – on the shares in the portfolio company as part of the return on the loan. When the portfolio company is divested from the private equity fund the mezzanine financier is given the opportunity to acquire shares in the company at a predetermined price.

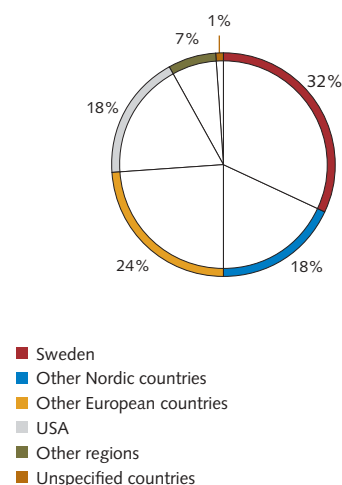
The required rates of return thus reflect the risk associated with the different sources of financing. Financing through equity capital entails the greatest risk and has therefore also the highest rate of return, around 25 per cent. Next is mezzanine financing, followed by bank loans secured on the portfolio company's shares. During periods when the supply of capital has been abundant and the competition between private equity investment companies high, the degree of leverage has tended to increase and required rates of return to fall at the same time as more borrowers have taken interest-only loans. Such a development naturally involves increased risk for the financiers.

The private equity market in Sweden

Swedish private equity investment companies are hereinafter taken to mean private equity investment companies that primarily invest in Swedish enterprises regardless of where the private equity investment companies' funds are based. More or less all private equity funds operated by Swedish private equity investment companies are located outside Sweden. That is partly because limited partnerships' returns from shareholdings are not exempt from tax but also because Swedish tax legislation is unclear as regards how foreign partners in a limited partnership in Sweden are to be taxed. Swedish limited partnerships are taxed according to the principle of permanent establishment. According to an advance decision by the Swedish National Tax Board, foreign partners in Swedish limited partnerships are considered to be permanently established in Sweden and are thereby also required to pay tax here. Before this advance decision has been tried in a court of law there is uncertainty regarding the foreign partners' tax status in Sweden.

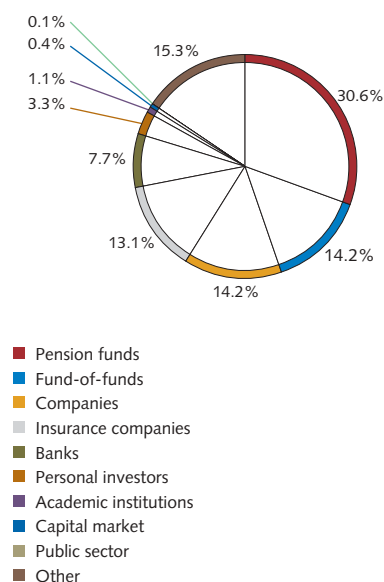
Nearly 70 per cent of the capital in Swedish private equity investment companies is provided by investors in other countries (see Figure 2). It is often argued that dependence on foreign capital could constitute a risk, as this capital is considered to be more volatile and the financing can be quickly withdrawn. As regards private equity funds, it is not obvious that this is the case, given the long fixed

Figure 2. Geographical breakdown of capital raised by Swedish private equity investment firms in 2004. Per cent



Source: SVCA.

Figure 3. Capital in Swedish private equity funds in 2004 broken down by investor category. Per cent



Source: SVCA.

period of investment. For existing funds the risk is therefore small, if not non-existent, that foreign capital would disappear from Swedish private equity funds in the short term. In the longer run, however, there is a risk that the private equity investment companies would not be able to attract foreign capital to their new funds if they have not managed to generate a sufficiently high return for their investors. All asset managers run that risk, though, so it is not unique to private equity funds. As long as private equity investment companies generate returns that satisfy their investors, there is no reason to believe that the inflow of foreign capital would diminish.

Of the investor categories that invest in Swedish private equity funds the dominant one is institutional investors, such as pension funds, insurance companies, fund-of-funds managers and other institutional investors with long-term commitments in their balance sheets (see Figure 3).

During the past year the industry has seen an unusually large inflow of new capital, both in Sweden and abroad. This is due in large measure to asset managers in Europe increasing their share of unquoted investments in general and to institutions in the United States boosting their share of unquoted investments in Europe.

Almost 75 per cent of the capital managed by Swedish private equity investment companies is targeted at investments in later phases of the company life cycle, that is, the buyout segment.

Roughly 90 per cent of buyout investments – or almost 70 per cent of the total private equity – is managed by the ten largest private equity investment companies in this segment (see Table 1). Around half of the Swedish private equity investment companies' committed funds from investors, which totals SEK 215 billion, is managed by three private equity investment companies, EQT (SEK 51 billion), Industri Kapital (SEK 35 billion) and Nordic Capital (SEK 22 billion).

Table 1. Private equity investment companies focused on buyout investments in the Nordic region

Private equity investment companies primarily focused on the Nordic region	Managed capital, SEK billion
EQT	51
Industri Kapital	35
Nordic Capital	22
CapMan	11
Ratos	8.5
Altor	6
Accent	5
Segulah	3.5
Procuritas	3
Litorina	1
Other private equity investment companies	19.2
Total managed capital	165.2

Source: SVCA.

It is also the buyout segment that attracts the greatest interest from foreign private equity investment companies. Swedish private equity investment companies are expected to face increased competition in the future from their foreign counterparts, particularly when it comes to major buyout investments. Table 2 lists the biggest foreign private equity investment companies that have initiated investment in Sweden.⁵¹

Table 2. Foreign private equity investment companies with established activities in Sweden

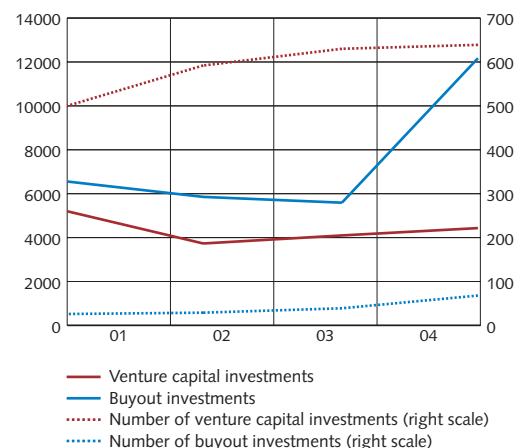
Private equity investment companies with a global focus and newly established operations in Sweden	Managed capital, SEK billion
Apax	108
Permira	100
3i	94
Bridgepoint	37
Doughty Hanson	34
Total managed capital	373

Source: SVCA.

Although these are very large private equity investment companies they have not yet invested in Swedish portfolio companies to any sizable degree. A major contributory factor in this regard is that private equity activities require established, extensive local networks, sound knowledge of the local business sector and specialist knowledge of the local jurisdiction. This is costly and time-consuming to establish for large private equity investment companies as well. Judging by the size of their funds, though, there is potential for large-scale investment in Swedish portfolio companies, too.

Swedish private equity investment companies specialising in venture capital tend to be smaller than those that focus on buyout investments. This is evident from Table 3, which lists all the Swedish private equity investment companies that specialise in venture capital and that have at least SEK 1 billion in managed funds. All in all, private equity investment companies focused on early investment phases manage 25 per cent of the total private equity in Sweden.

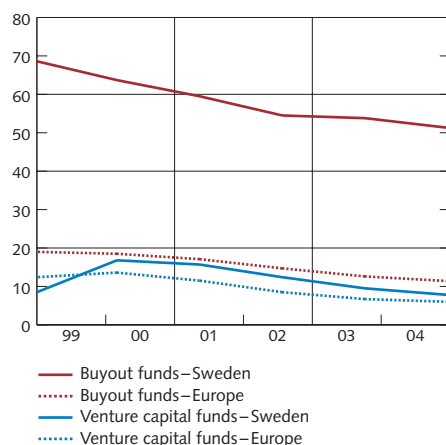
Figure 4. Developments in the volume of venture capital and buyout investments over time. SEK million and number



Source: SVCA.

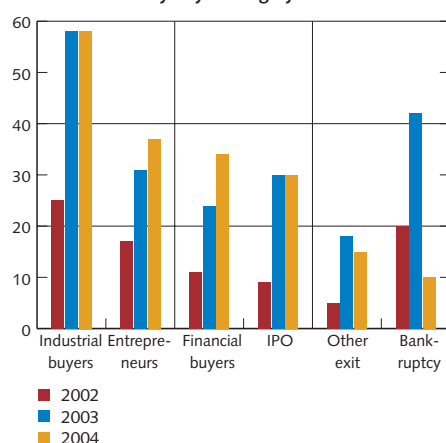
⁵¹ The Swedish State participates in the private equity market by investing in the seed and start-up stages of companies. The State has previously financed entrepreneurs in the seed phase through seven regional *teknikbrostiftelser* (foundations set up to increase cooperation between universities and the business sector), which manage SEK 1 billion, as well as through Stiftelsen Innovationscentrum (SIC) and NUTEK. NUTEK no longer provides seed financing, however, and SIC has essentially used up all its funds for the seed stage. The Swedish Industrial Development Fund and the Swedish National Pension Funds today represent the State's main involvement in the financing of later-stage companies through start-up and expansion financing. The Swedish Industrial Development Fund is a foundation that was set up by the State in 1979 and that has SEK 3.5 billion in assets, of which SEK 1.7 billion is invested in companies. The Sixth Swedish National Pension Fund invests all its capital in Swedish unlisted companies. Of the fund's SEK 13.9 billion, a total of SEK 8.5 billion has been invested in unlisted companies. An additional SEK 4 billion comprises committed funds that have not yet been paid. According to the investment rules of the other National Pension Funds, up to 5 per cent of the funds' assets may be invested in private equity. Presently, the Seventh Swedish National Pension Fund has taken most advantage of this opportunity, investing around 4 per cent of its assets, that is, SEK 1.7 billion, in this asset class.

Figure 5. Return on venture capital and buyout investments in Sweden and an average for Europe. Per cent



Source: Thomson Financial.

Figure 6. Swedish private equity investment companies' divestments of portfolio companies broken down by buyer category.



Source: SVCA.

Table 3. Swedish private equity investment companies focused on venture capital

Private equity investment companies primarily focused on the Nordic region	Managed capital, SEK billion
Investor Growth Capital	15
Swedish Industrial Development Fund	3.5
IT Provider	3
Eqvitec	2.4
Scandinavian Life Science Vent.	2.2
Nordic Venture Partners	1.8
Innovations Kapital	1.8
Northzone Ventures	1.5
H&B Capital/Life Equity	1.5
Brainheart Capital	1.3
SEB Strategic Investments	1.3
Skanditek	1.3
SEB Företagsinvest	1.2
Ledstiernan	1.1
Total managed capital	38.9

Source: SVCA.

During the period 2001 to 2003, the number of investments rose weakly in terms of both venture capital and buyouts (see Figure 4). Meanwhile, in krona terms there was a notable increase in buyout investments last year, which doubled in the space of a year. The sum invested in venture capital was largely unchanged, however.

Comparing the returns from Swedish private equity funds with an average for their European counterparts shows that the return generated by Swedish venture capital funds has been at roughly the same level, and has followed a similar trend, as the European average since 1999 (see Figure 5). Swedish buyout funds, on the other hand, have exhibited a return that is well above the European average. Although the high return from Swedish buyout funds should be interpreted with some caution, since it is dominated by the returns from a handful of large funds, this may have contributed to the increased inflow of capital to Swedish private equity funds and to greater interest among foreign private equity funds to invest in Sweden. This has probably given rise to some upward price pressure on potential target companies.

There have been reports in the media that it is becoming more common to divest portfolio companies from buyout funds to other private equity investment companies. This would suggest that the prices have reached unreasonably high levels, since public equity market investors are not prepared to pay as much as private equity investment companies.

A survey of the buyer categories that have acquired portfolio companies when private equity investment companies have exited their funds shows that the buyers to an increasing extent have been other private equity investment companies (see Figure 6). Private equity investment companies are included in the category 'financial buyers' and the number of divestments to this category has risen steadily over the past three years.

The single biggest category of buyer, however, is 'industrial buyers'. To some extent this can be taken as a sign that the private equity market is functioning well, as it indicates that the private equity investment companies have, through their ownership, developed portfolio companies that other industrial buyers consider to be suitable additions to their own operations. Sweden, as well as the rest of Europe, is seeing a consolidation of its corporate sector, with companies acquiring or merging with firms in the same sector as well as streamlining their operations and divesting businesses that are not part of their core activities. It is exactly this kind of business that buyout funds focus on.

Moreover, a private equity investment company will not always have completed the work to restructure its portfolio companies when the private equity fund approaches the end of its predetermined commitment. In that case a new fund can take over where the old fund left off. So the fact that other private equity funds and industrial buyers are acquiring portfolio companies does not in itself have to be a sign that the companies have become too expensive for the stock exchange. They may simply not be ready for an IPO yet but instead need to be further developed within an industrial group or some other private equity company.

At the same time, there are undoubtedly question marks over the tendency of private equity investment companies to use their portfolio companies' cash flows to service debt in the holding companies. This may limit the portfolio companies' opportunities to invest and evolve using their own funds. It may also contribute to pushing up the prices of potential acquisitions in the same way as has evidently happened in the market. In addition, it fuels uncertainty over whether private equity investment companies really are able to restructure and develop their portfolio companies in a way that eventually enables them to be divested at a profit.

The role of Swedish banks in the private equity market

Banks participate in the private equity market in mainly three ways – by granting loans for leveraged buyouts, by arranging financing packages in which the financing is distributed to other players, and through direct investment in unlisted companies against the banks' own balance sheets.

Of the four major Swedish banks, only SEB carries on a private equity business using its own resources. SEB Företagsinvest and SEB Strategic Investments are run as two separate departments within the bank. SEB Företagsinvest focuses on venture capital investments in technology and healthcare companies. SEB Strategic Investments does not have the same distinct focus on venture capital, investing instead in companies with a strategic link to the bank's other activities.

As regards lending to private equity investment companies for leveraged buyouts, all four major Swedish banks conduct such activities. They grant loans secured on the holding company's shares in the portfolio company (which essentially is collateral against the acquired company's assets).

In addition to regular loans to the holding company, the banks also provide mezzanine financing. Currently, all Swedish banks, except one, provide such financing.⁵² By offering mezzanine debt in addition to secured loans, a bank can provide a complete financing package.

There are no statistics regarding the extent of the banks' lending for leveraged buyouts, but a rough estimate can be made. Private equity investment companies turn almost exclusively to banks that are based in the same country as the targeted portfolio company. An average for the past six years indicates that 63 per cent of Swedish private equity investment companies' managed capital has been invested in Sweden. At a rough estimate, private equity investment companies in the buyout segment have invested a little over SEK 80 billion in various portfolio companies. Given that the banks are willing to lend against 50 per cent of the portfolio companies' assets, their lending for private equity investment companies' leveraged buyouts would amount to around SEK 40 billion. That is around 4 per cent of the four major Swedish banks' total lending to Swedish non-financial companies.⁵³

In the case of very big acquisitions, several private equity investment companies may join forces, especially in those instances where an acquisition would comprise an inordinately large share of a single fund's total assets. Individual funds do not generally invest more than 20 per cent of their total assets in one single company.

The company acquisitions are usually implemented in the form of an auction, regardless of whether the deal has been initiated by the private equity investment company or whether the firm has had a business concept presented to it. In this way the sellers can make sure they receive the best possible selling price, even on those occasions when the sale has been initiated by a private equity investment company.

When a business concept that involves a leveraged buyout in Sweden has taken form, the private equity investment company usually contacts all the major Swedish banks to negotiate terms and conditions for loans. The banks compete with each other on the basis of, among other things, what degree of leverage they can accept in the buyout.

52 Nordic institutions that provide mezzanine financing are SEB, Nordea, Handelsbanken, Kaupthing, Islandsbanki, Ilmarinen, Den Norske Bank, Nordic Mezzanine, CapMan, EQT, Equitec and Carta Capital.

53 Since loans for leveraged buyouts cannot be isolated in the banks' loan portfolios it is not possible either to see how large the banks' lending is for this purpose. Given that private equity investment companies finance acquisitions of non-financial portfolio companies with bank loans, this kind of lending is categorised as lending to non-financial companies. The four major Swedish banks' total lending (i.e. including lending via finance companies and mortgage institutions) to Swedish non-financial companies amounts to approximately SEK 934 billion.

In the past year Swedish banks have seen increased competition from foreign investment banks, notably in relation to major company acquisitions (deals over EUR 100 million). The stiffer competition is reflected in part by the foreign banks' acceptance of higher leverage rates and a larger proportion of interest-only loans. It is usually the foreign investment banks that arrange syndicated loans for major acquisitions. The lead bank in the syndicate receives a fee of around 2.5 per cent of the loan amount. The loan is then apportioned among smaller banks, with the lead bank usually keeping a small share of about 5 per cent. This allows the increased risk in the lending to be spread among smaller banks that want to take part in the syndicate.

It is not only the supply of bank loans that is increasing but also the availability of mezzanine financing. Growing interest among hedge funds to provide mezzanine debt has resulted in an ample supply of this kind of financing on beneficial terms, including a larger interest-only component in the loans.

One way to get a rough idea of whether banks are taking considerable risks in their lending to private equity investment companies in the buyout segment is to look at the relationship between the transaction price and the portfolio company's EBIT for actual buyouts (see Figure 7).⁵⁴ A higher value indicates increased risk since the transaction price has risen but not the company's underlying earnings capacity. The trend for Europe shows a weak rise in the EBIT multiple from 1995 through 2004, pointing to a somewhat higher risk level in buyout investments.

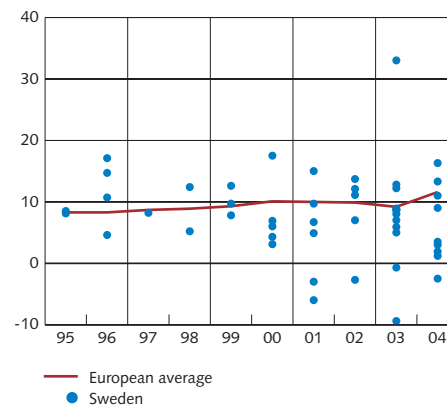
By all appearances the EBIT multiples for Swedish portfolio companies are somewhat below the European average, and no rise in EBIT multiples such as that seen for the European average in 2004 can be observed. That would tend to suggest, therefore, that the risk level in the Swedish banking system has not risen as a result of financing private equity investment companies' acquisitions.

Concluding remarks

The evolution of a private equity market in Sweden along international lines is essentially a positive thing. Private equity investment companies fulfil a need that banks and other institutions in the financial markets cannot meet.

This analysis of the Swedish private equity market shows that the segment of the market that channels capital to companies at early investment phases – the venture capital market – is not that large. The private equity investment companies that operate here are generally small, together managing only one-quarter of the total private equity. The banking system has no direct connections with this section of the private equity market since it involves investment in immature businesses with few tangible assets and weak cash flows.

Figure 7. EBIT multiples for leveraged buyouts: individual transactions in Sweden and the European average.



Source: The Centre for Management Buy-Out Research.

Note: The unbroken curve represents the European average while the dots represent the ratio of the transaction price to EBIT for companies that have been the subject of leveraged buyouts by private equity investment companies.

⁵⁴ The EBIT multiple indicates how large the transaction price for a company that has been subject to a leveraged buyout is in relation to its earnings before interest and taxes.

The majority of the private equity, 75 per cent, is managed by private equity investment companies in the buyout segment. It is with this section of the private equity market that the banking system has its strongest connections in that the investment companies largely use bank loans to finance the acquisitions. Even though bank loans are the single biggest source of financing in leveraged buyouts they still account for a relatively small share of the total corporate lending by the four major Swedish banks.

Buyout investments are very much concentrated to a few private equity investment companies. Of Swedish private equity investment companies' total investment capital, SEK 220 billion, around half is managed by three private equity investment companies in the buyout segment – EQT, Industri Kapital and Nordic Capital.

High returns for Swedish buyout funds have meant that both Swedish private equity investment companies and Swedish banks have encountered increased competition from foreign players. The competition between private equity investment companies is evident in that the prices of potential acquisitions have risen. The competition between the banks is mainly reflected in higher leverage rates and a larger proportion of interest-only loans in leveraged buyouts.

One measure of the risk in a leveraged buyout is transaction price in relation to EBIT. Sweden is somewhat below the European average in this regard and has not seen any equivalent rise in EBIT multiples such as that seen for the European average in 2004. At the same time, it is difficult to disregard the fact that private equity investment companies' transactions have become larger, that the prices of portfolio companies have risen and that the leverage rates in holding companies have grown. All these factors are likely to have contributed to a higher risk level in the debt-financed segment of the private equity market than a few years ago, perhaps considerably higher in certain cases.

■ Economic reasons for regulating the financial sector

Financial regulation must be based on a solid foundation of economic analysis. Two conditions must therefore be met for regulation to be justified: it must be possible to show some form of market failure, and the benefit of the regulation must exceed its cost to society. This article contains a general discussion of how market failures may justify regulation of various parts of the financial sector. In addition, attention is drawn to problems that arise when the benefit of a regulation is to be weighed against its cost.

A well-functioning society requires – as well as a physical infrastructure – a basic legal infrastructure consisting of rules and institutions to apply these rules.⁵⁵ This includes strong property rights and reliable systems for pledging property as collateral for loans. The emergence of the modern limited company, which looks essentially the same in all parts of the world, is another important factor behind economic growth. The analysis here assumes that such an infrastructure already exists and focuses on the need for further regulations. The main focus is on the regulation of financial companies, although much of the discussion could also apply to other sectors. While financial companies are to a great extent subject to specific regulations and supervision, they are not unique in this respect. The food industry is another example.

Two motives are usually emphasised as a basis for special regulation of financial companies; the need to protect the economy against systemic shock and the need for consumer protection. Protection against systemic risk entails regulations with the purpose of protecting the whole of the financial system against serious shocks, such as a bank crisis. Consumer protection entails regulations aimed at protecting the individual consumer against various types of exploitation.

However, regulation entails costs, both directly and indirectly. The benefit of the regulation must always be weighed against these costs. The need to examine the special financial regulations is reinforced by the fact that the existing regulations have been constructed over a long period of time and are the result of political compromise, not least in the form of EC directives. As both the regulations and our surrounding world change, there is cause for regular evaluation.

As financial regulations today often derive from various international agreements, Sweden has limited possibilities to choose a different focus for its regulations. However, Sweden can – with the objective that regulations should be based on economic analysis – influence the regulatory framework by expressing views on proposed regulations and legislation and by participating in the international work on formulating joint standards and recommendations. This is an important part of the Riksbank's work. For example, within the G10

⁵⁵ Economic research has emphasised the importance of legal infrastructure for economic progress. See, for instance, Levine (1999), "Law, Finance and Economic Growth", *Journal of Financial Intermediation*, 8, 8-35, Mayer and Sussman (2001) "The Assessment: Finance, Law and Growth", *Oxford Review of Economic Policy*, 17, 457-466, and Rajan and Zingales (2001), "Financial Systems, Industrial Structure and Growth", *Oxford Review of Economic Policy*, 17, 467-482.

work, the bank participates in the Basel Committee which formulates capital adequacy rules for banks.

The purpose of this article is to analyse the reasons for special regulation of the various parts of the financial sector from an economic perspective.⁵⁶ The aim is not to analyse specific regulations in detail. The discussion covers the financial sector in a broad sense, and refers to payment service providers, banks and other credit institutions, securities companies, deposit companies, exchanges and other financial markets, insurance companies, fund management companies, etc.

The article begins with a discussion of the general motives for regulation, followed by a general description of the justification for financial regulation based on the financial sector's three main functions. The major part of the article analyses the two traditional reasons for special financial regulations; protection against systemic crises and consumer protection. This is followed by a discussion of the various problems with special regulation. In conclusion, we present some implications for financial regulation in Sweden.

General reasons for regulation

The reasons for financial regulation do not differ fundamentally from the general reasons for regulation. It may therefore be useful to briefly review the economic theory of regulation before discussing the reasons for specific financial regulations.

A normal assumption is that economic efficiency can be attained when financial activities can be conducted in well functioning markets under good competitive conditions and with a minimum of public regulation and intervention.⁵⁷ Thus, free and unregulated markets can in most cases meet households' and companies' different interests. Sometimes, however, deficiencies arise whereby the market mechanisms do not work. Then, the most economically efficient result is not achieved; either too much or too little of a product or service will be produced compared to the optimal amount for society. Sometimes market agents themselves succeed in constructing ways of managing these market deficiencies; in other cases they are less successful. In the latter case, a real *market failure* ensues. There may then be justification for public intervention with some form of regulation.

⁵⁶ Traditionally, discussions of the motives behind financial regulation have often been based on other reasons than the purely economic ones used in this article. Regardless of the original reason, all regulations should be subjected to an economic analysis, as they almost always entail prioritising limited resources.

⁵⁷ Most of the basic textbooks in microeconomic theory contain a discussion of these issues; see, for instance, Hal Varian, *Intermediate Microeconomics*, W.W. Norton & Company, or Peter Bohm, *Social Efficiency: A Concise Introduction to Welfare Economics*, Macmillan Education.

MARKET FAILURES

A market failure occurs when those trading in the market do not have any incentive, quite often for entirely legitimate reasons, to ensure that prices and quantities correspond to those on a free market subject to competition. Economic theory identifies several different types of market failure.

Externalities are one type often mentioned. Negative externalities can arise, for instance, when an agent makes a decision that entails costs for others, without the agent taking this into account. A classic example is when a company that manufactures goods also emits air pollution that affects the environment. This air pollution entails a cost to society that the company's owners and management have not taken sufficient account of. Society may therefore need to intervene in order to regulate or price the emissions.

However, the existence of externalities does not always need to lead to major regulatory intervention. Sometimes it may suffice to more clearly specify property rights to avert more serious market failures. In the example of air pollution, a system with marketable emission rights could lead to a large part of the negative externalities being internalised. If the emissions are priced, the manufacturers have clear incentives to take them into account when making decisions. This is an example where general property rights do not include the right to pollute. When these rights are defined in law, it creates necessary conditions for a market that can solve the problem of the externality.

Public goods are another type of market failure. This refers to goods – or services – that can be consumed by several parties without any party being disadvantaged. When a product is consumed by those who do not pay for it, there is a problem that no individual has sufficient incentive to produce it. The market mechanism is insufficiently effective – the public sector may need to intervene to ensure the product is manufactured. Textbook examples of such public goods include national defence and street lights.

Information problems may also give rise to market failures. A market cannot function efficiently if buyers or sellers have incomplete information on alternative products. Problems also arise if the agents have different access to information, that is, if the information is asymmetrically distributed. Consumers often have a significant information disadvantage relative to those supplying the goods or services. This applies in particular where the goods or service are complex in nature.

In some contexts asymmetric information can lead to serious market failures. If the information asymmetries are sufficiently large, those with poorer information may prefer not participating to purchasing and risking a bad deal. If enough consumers choose to refrain from participation, the market base may completely disappear.⁵⁸

⁵⁸ See, for instance, Akerlof (1970), "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism" *Quarterly Journal of Economics*, 89, 488-500.

However, asymmetric information does not necessarily imply a market failure that requires public intervention. Many specialised services, such as banking, brokerage and consulting firms, are aimed at managing information asymmetries. Thus, it cannot be claimed that asymmetric information in itself always justifies regulation.

Imperfect competition is a market failure that can arise, for instance, when there is a small number of sellers in a market. If there is only a few, or even only one seller, the markets are called an oligopoly or a monopoly, respectively. The problem with imperfect competition is that, compared to a free market exposed to competition, prices are typically higher and the quantities produced lower.

Economies of scale exist if the production cost per unit declines as the number of products produced increases. Economies of scale can arise when there are large fixed costs, but the variable costs are relatively low. This often leads to imperfect competition as only a few companies can produce efficiently. If the economies of scale are substantial, the consequence may be that a natural monopoly arises.

However, economies of scale do not automatically lead to a disadvantage for customers. One example might be the joint infrastructure created by banks to manage payments to one another. This type of infrastructure often has substantial fixed costs, but small marginal costs. In addition to these economies of scale in production, there is a form of economy of scale for the consumer, known as network externalities. The classic example is the telephone network, where the benefit to the consumer clearly increases as the number of subscribers increases. However, network externalities are also common in the financial sector. The benefit to the customers typically increases if they can send payments to many banks. Therefore, it is important to balance the benefits of economies of scale against the resulting lack of competition.

From this point of view, the existence of a market failure is thus a necessary condition for regulation. However, it is not sufficient reason in itself. It is also necessary for the regulation's overall benefit to be greater than the cost that it will entail. This balance is often difficult to achieve, but without such an analysis the regulation risks doing more harm than good.

BALANCING BENEFITS AND COSTS

Apart from the fact that regulation often entails costs in the form of a public bureaucracy, it can also lead to substantial costs for the regulated companies in the form of information and reporting requirements, etc. These costs are often ultimately paid by the end-consumer.

However, the most serious economic costs of regulation are of a more subtle nature. Public intervention can have undesirable effects on the conditions for and behaviour of economic agents. It can, for instance, distort competition in the industry concerned or between

industries. The fact that some companies benefit indirectly and others are disadvantaged often contributes to inefficient allocation of resources in the economy, leading to poorer growth in the long term. It is therefore important to closely analyse both the advantages and the direct and indirect costs of each regulation.

A major problem is the difficulty in measuring the costs of a regulation. Its benefit to society may be even more difficult to estimate. Nor is it always possible to analyse a proposed regulation in isolation. The total effect of many different regulations may be undesirable even if each of the regulations appears to be motivated. Unfortunately, it is also often difficult to determine the total effects of a particular regulation until long after it has been introduced. However, these difficulties do not make the task less important.

Thus, for a regulation to be justified, a market failure has to be identified and the benefit of the regulation must exceed its cost to society.

Reasons for regulating the financial sector

On the basis of these general principles for efficient regulation, we now proceed to discuss the special motives for regulating the financial sector. However, first we present the main functions of the financial system.

THE MAIN TASKS OF THE FINANCIAL SECTOR

The financial sector offers three main types of service to households and companies; executing payments, allocating capital and managing risk.

Payments are of central importance in any economy. It is difficult to imagine any form of economic activity without payments. If the possibilities to execute safe and efficient payments were to deteriorate, the negative consequences for the economy as a whole risk being large.

In a modern economy, many payments – and moreover the largest and most important ones – are not made as direct transfers between payers and recipients, but as transfers between accounts with a payment intermediary, usually a bank. Payments using charge cards, credit cards and credit transfers are all made by the payment intermediary debiting the payer's account and crediting the recipient's account. It is only when this transfer between accounts has been made that the payment is finalised. If the end-users have different payment intermediaries/banks, there is a need for systems to make transfers between these, that is, a financial infrastructure for payments.

Allocation of capital is the second of the financial sector's main tasks in the economy. Many households wish to even out their consumption over a period of time. At the same time, companies need funding. It is therefore possible to attain major efficiency gains

in the economy by linking up those who wish to save money, i.e. not immediately consume their income, with those who need resources for various types of investment or for consumption. The market price of the loan, the interest rate, will direct capital to the most profitable investments since they will be able to support the highest risk-adjusted interest rate. Thus, ideally, capital is allocated to the economically most productive investments, which leads to higher economic growth.

Traditionally, banks have played a central role in allocating and transferring capital by receiving deposits and granting loans. However, there are alternatives. Mortgage companies and other credit institutions currently account for a significant share of loans. A large part of saving is in mutual funds. The securities markets are also important for channelling capital to those who can make best use of it. Banks and other intermediaries often finance themselves or invest their resources in the securities markets. This means that the securities markets become central to different financial agents' possibilities to supply a broad range of financial services to households and companies, even if the latter do not operate directly in these markets.

Risk management is the third main task of the financial sector. Insurance companies are the clearest example of institutions supplying risk management services. The banks also manage many risks. One example is that the banks lend to many different companies and households and thereby reduce the risks for depositors. However, both insurance companies and banks would find it difficult to offer a comprehensive range of risk management services if they were not in their turn able to dispose of their risks in the financial markets. For example, the derivative markets have made it possible to relatively easily distinguish different risks and to manage them separately. This has enabled substantial efficiency gains to be made, primarily in professional agents' risk management.

MARKET FAILURES IN THE FINANCIAL SECTOR

The discussion above indicates the importance to the economy that the financial sector can carry out its main tasks efficiently and securely. However, this is not in itself sufficient motivation for regulation; a clear market failure should also be identified. The market failures relevant to the financial sector are primarily externalities, information problems and economies of scale.

Externalities can arise in the financial sector, for instance, due to contagion risks. If one bank suffers financial problems this usually has an immediate effect on many other banks. However, in taking decisions that affect a bank's risks, it often lacks any incentive to take into account the economic costs these contagion risks entail. The existence of these negative externalities creates a systemic risk motive for special regulation of the financial sector.

Information problems are common with regard to financial services, and often a result of information being asymmetrically

distributed, for instance, between sellers and buyers. The services can be complicated and it is natural that the sellers have significantly better information than the buyers, who are often individual consumers. Although the problems resulting from asymmetric information are not unique to financial services, these problems are often greater for these services than for other goods and services. There is thus a consumer protection motive for special regulation of financial services.

Economies of scale are also common in a number of financial services. As a consequence one or a few manufacturers can produce these services at a lower unit cost than if there had been many different producers. Another consequence is that competition is frequently limited, in the same way as for natural monopolies. The existence of economies of scale can reinforce the need for regulation from both a systemic risk and consumer protection perspective.

The following two sections contain a more detailed discussion of the motives behind special regulation of the financial sector, based on the traditional division into systemic risks and consumer protection.

The need to protect the financial sector against systemic risks

The externalities in the financial sector are closely linked to the existence of **systemic risk**. Systemic risk can be defined as the risk that a disturbance in one part of the financial system will develop into a crisis that spreads throughout the system and threatens one of the system's fundamental functions, for instance in that many agents, institutions or systems will face problems so serious that their operations will be endangered or substantial asset values will be jeopardised.⁵⁹ There is a negative externality since agents do not take into account all of the costs that would arise if one or more of the financial sector's fundamental functions were eliminated. In other words, the individual agents' incentives to manage systemic risk are lower than is optimal for society. An important motive for regulation is therefore to avoid or reduce systemic risks.

Although the probability *a priori* of a systemic crisis is small, the economic effects can be substantial. It is often difficult to estimate the costs of a financial crisis. A survey carried out by the Bank of England estimates the accumulated production loss as a result of a financial crisis to 15–20 per cent of GDP.⁶⁰ This indicates that the economic value of stability in the financial system is considerable, which strengthens the argument for regulation to avoid systemic crises.

The importance of an individual system or institution from a

⁵⁹ There are many references to systemic risks. An overview can be found in Goodhart and Illing (2002) *Financial Crisis, Contagion and the Lender of Last Resort: A Book of Readings*, London, Oxford University Press. Empirical research into systemic risks includes Gropp and Vesala (2004), "Bank Contagion in Europe", mimeo ECB and Bartram, Brown and Hund (2005), "Estimating Systemic Risk in the International Financial System", working paper Kenan-Flagler Business School, University of North Carolina at Chapel Hill.

⁶⁰ Hoggarth, Reis & Saporta (2001), "Costs of Banking System Instability: Some Empirical Evidence", Working paper 144, Bank of England.

systemic risk perspective depends on what alternatives the user has within a reasonable time horizon. If there are realistic alternatives, the economic interest of protecting a specific system or institution is reduced.⁶¹ As the available alternatives may vary over time, depending on technological advances and market conditions, it is important to continuously monitor which institutions and systems are vital for supplying fundamental services.⁶²

Systemic risks are very important to the financial sector, for two reasons. The first is that some functions in the financial system are particularly sensitive to disturbances. The second is that there are considerable contagion risks in some financial activities. Disturbances may easily spread throughout the system and cause a systemic crisis. Contagion effects therefore risk causing substantial costs and having prolonged repercussions throughout the economy.

However, systemic crises can arise without chain effects, especially if the market is so concentrated that it is dependent on the functioning of one or a few institutions or systems. If one such system suffers problems, it may mean that one of the financial sector's economically important functions cannot be maintained.

Thus, a systemic crisis could entail an entirely disappearing supply of certain goods and services. The market will collapse, despite the services still being greatly in demand. This instability should not be confused with natural and necessary structural changes, which are often due to a change in demand or production prospects. If, for instance, a country's automobile industry were driven out of business by foreign companies, it would mean that the consumers had chosen other alternatives. However, this does not mean that there will be a shortage of transport or that the transport system as a whole will be put at risk. These structural changes are normally due to changes in preference or in relative costs and not to the market collapsing and being unable to meet demand. Systemic protection is thus not a protection against natural structural changes.

The need for regulation to reduce the risk of systemic problems differs considerably from one financial sub-market to another. Different market failures may also require different solutions.⁶³

THE MARKET FOR PAYMENT SYSTEMS, CLEARING AND SETTLEMENT

In **payment systems** there are three main sources of systemic risk; contagion risks, economies of scale and network externalities.

The contagion risks in payment systems are examples of the chain effects that could arise when an agent in a financial transaction

⁶¹ Today's financial institutions are often so large and so complicated that they have several functions in the economy. If an institution carries out a systemically important function it does not always mean that the entire institution is systemically important.

⁶² See, for instance, Financial Stability Report 2003:1 "Can a bank failure threaten the payment system?", pp. 75-92 and Andersson, Guibourg and Segendorff (2001) "The Riksbank's oversight of the financial infrastructure" *Sveriges Riksbank Economic Review* 2001:3, pp. 5-19.

⁶³ An analysis based on these principles has been carried out earlier, concerning the motives for regulation of banks, see for instance the Banking Law Committee's report, "Regulation and supervision of banks and credit market undertakings", (SOU1998:160).

is unable or unwilling to pay. If one agent does not pay, many other agents may become unable to pay. Payment problems can thus spread to several agents in the economy. As it is not reasonable to assume that the first agent to default on a payment will take account of all consequences for all other affected agents – if an agent is suffering payment problems he may have no other choice – there is a market failure in the form of negative externalities. Contagion risks therefore constitute a potential threat which could put the entire payment system out of action.

Another characteristic of payment systems is that economies of scale are often substantial. For this reason, large payment systems can often offer payment services at lower prices than small systems. There are therefore considerable entry barriers to payment systems as well as significant concentration tendencies. Moreover, payment systems are usually characterised by substantial network externalities.⁶⁴ A participant would normally benefit from more users joining a payment system, as it increases the opportunities for successfully sending and receiving a payment.

The concentration tendencies mean that payment systems often have the quality of natural monopolies. Most countries only have one single payment system for each type of payment. In Sweden there is, for instance, the Riksbank's RIX system for large-value interbank payments and Bankgirocentralen BGC's system for less urgent payments in smaller amounts. One consequence is that the possibilities to make payments become critically dependent on the stability of the individual payment system. However, another consequence is that the fixed costs can be distributed among a larger number of users and that customers can more easily execute payments to other customers. Also, there is a risk that the concentration will lead to monopoly pricing and that the motives for change and development decline.

The tendency towards concentration means that there may be reasons for special regulation and supervision of payment systems to reduce the systemic risks. However, the problem of systemic risks may require regulations that unintentionally reinforce the concentration of the market even further, thus justifying special monitoring of competition issues in this field. In practice, regulators therefore have to strike a difficult balance between reducing the risk of systemic crises and maintaining competition and pressure for structural change.

Clearing and settlement of securities transactions is subject to problems similar to those in the payment systems.⁶⁵ Firstly, the contagion risks are similar. As clearing and settlement in most markets takes several days to perform, significant exposures are created before settlement is complete. If the seller of an asset cannot supply it, there may be severe repercussions for other traders. Furthermore, clearing

⁶⁴ For an analysis of these network externalities, see for instance Guibourg (2001), "Interoperability and Network Externalities in Electronic Payments", Working Paper 126, Sveriges riksbank.

⁶⁵ Clearing refers to the compilation of the commitments that follow from trading, that is, how much the buyer shall pay the seller and which and how many securities the seller shall supply to the buyer. Settlement refers to the actual transfer of the liquid funds to the seller and the securities to the buyer.

and settlement of securities transactions is usually closely linked to payment systems, where the flows largely originate from securities trading. Problems in clearing and settlement of securities therefore risk spreading into the payment systems. This provides justification for regulation and supervision of the clearing and settlement systems. The regulation should be aimed at increasing the probability that agents can supply the right asset in time and at minimising the consequences of any delivery problems.

Like the payment systems, clearing and settlement systems are characterised by substantial economies of scale as the costs can be spread over many users, although at the same time the risks increase in the event of a failure. The concentration tendencies are liable to hamper a dynamic development. The reasons for regulation are thus the same as for the payments system.

THE BANK MARKET

If the payment systems are to function, it is also important that the payment intermediaries can carry out their tasks. The banks play a central role in most modern economies, as managers of means of payment and as payment intermediaries. Means of payment here refers to funds intended for making payments in the relatively near future and which are therefore invested in a way that makes them quickly available at a low cost.

Normally a bank's assets, in the form of loans to companies and households, are illiquid, while their liabilities, i.e. loans from the securities markets and deposits from companies and households, are liquid. Depositors can usually withdraw funds at short notice, for instance, to make payments. This is in fact one of the purposes of depositing funds. The loans from the securities markets are also largely of short duration, that is to say, liquid. In contrast to this, the bank's lending to companies and households is not usually reclaimable at short notice and cannot be sold quickly without substantial discounts. One of the banks' main tasks is precisely to make this conversion between liquid deposits and illiquid loans.

However, this imbalance in liquidity entails a risk for the banks. If the financing through the securities markets were to disappear entirely or if all depositors wanted to withdraw their deposited funds at the same time, the bank would be unable to meet these demands. As the bank's financiers realise this, a bank facing financial problems will suffer a bank run, where all depositors hurry to withdraw their funds as quickly as possible and other lenders withdraw their financing. It may even suffice that the bank is suspected of having problems to trigger a bank run. When the bank's liquid funds come to an end the bank will be forced to close. The individual market agent or depositor does not typically take the consequences of its actions for the bank's finances into account. Therefore, there is a negative externality, i.e. a market failure.

The problems are aggravated by the contagion risks that exist. If a bank suffers payment problems, for instance because of a bank

run, the liquidity problems can easily spread to other banks. This contagion can occur in different ways. Firstly, there can be a direct contagion, through the exposures the banks have to one another in the payment systems and in connection with foreign exchange and securities trading. Severe chain effects can arise if the customers of a bank suffering problems have their means of payment tied up in the bank. This makes payments to other households and companies more difficult, leading to liquidity problems, which can in turn cause loan losses and payment problems for these customers' banks.

Another problem is that the banks are often exposed to the same types of risk, i.e. increasing the likelihood of a macro economic shock hitting more than one bank. Fears of this can make the banks' financiers overly cautious in renewing their loans, even where there is limited correlation between the banks. Thus, problems can both spread between banks as an indirect effect, through expectations that other banks may suffer similar problems to the one first affected, and via more well-founded suspicions of the banks' exposures to one another.

The banks' significance as payment intermediaries, combined with their inherent fragility provides justification for regulation. The problem is that the entire market for deposits – and thereby also for lending – risks disappearing even if demand for these services remains unchanged.

If the banking system were knocked out, it could also lead to a severe and rapid credit crunch. This entails a risk of substantial costs for society. The time aspect is important here. Companies that are dependent on overdrafts could face serious consequences in a bank crisis. However, any serious repercussions from a bank crisis would be less immediate for the capital allocation than for the payment system.

The problems are fewer with regard to the credit function than to the payment services function because, given a little time, the customers can actually change bank. The risk that the service would disappear completely is thus smaller for capital allocation than for the payment systems. At the same time, credit providers often have a long relationship with their borrowers and therefore have private information about the creditor. It is difficult to transfer this information, making it hard and time-consuming for an alternative financier to take over any credits from a failing bank. Another problem is that the capital adequacy rules can constitute a restriction on how rapidly other credit institutions may expand their loan portfolios. This means that the significance of systemic risks for the supply and allocation of capital should also be taken into account.

THE MARKETS FOR FINANCIAL INSTRUMENTS

Trading in financial instruments – securities, foreign currencies and derivatives – requires liquid markets. However, in some cases a market failure may arise, where market liquidity, and thereby the possibilities for financial trading, disappears.

There are network externalities in market liquidity. As more traders gain access to a particular market, the benefit for all participants in the market increases. Agents who trade – and thereby supply the market with liquidity – will not take into account the benefit that the increased liquidity has for other market agents. In other words, there are positive externalities in liquidity. One consequence of this is that order flow on a market will attract further order flows; liquidity attracts liquidity. However, there is also a downside. If liquidity for some reason declines in one part of the market, there is a risk that liquidity in a negative spiral rapidly disappears from the market as a whole. There is thus considerable risk that market liquidity will dry up if a financial crisis arises.

Normally, there are always agents willing to trade. However, when uncertainty in the markets increases it is usually necessary to offer a favourable price to attract a counterparty. Usually, liquidity is a question of finding the right price. However, one cannot rule out the possibility that the uncertainty will escalate so that no one wants to trade and the market will disappear entirely during a brief period, that is, a liquidity black hole will arise.⁶⁶ The result is that market agents cannot change their financial positions. Liquidity therefore risks being at its lowest just when it is most needed. In historical terms, we have experienced such liquidity black holes on some occasions, for instance during the stock market crash of 1987, the case of LTCM in September 1998 and in connection with the terrorist attacks on 11 September 2001. In practice it is often difficult to determine when a liquidity black hole has arisen. On the occasions mentioned, the Federal Reserve's assessment was that there was at least an imminent risk and they therefore intervened.

Market liquidity problems usually arise as a result of rapid price falls in financial instruments caused by the arrival of new information or by investors' changed perception of an asset's value.

Rational investors can protect themselves against a price fall by using orders with stop-loss functions. These are automatically triggered when a sufficiently large price fall occurs. However, if there are enough investors using similar features, this can lead to a very rapid negative spiral in asset prices and a rapid drainage of liquidity. There is thus a negative externality, as the individual investor has no incentive to take into account and internalise the economic cost of his actions. The acute problem is not that the price is adjusted to a new – possibly more realistic – level, but that the adjustment is so quick that liquidity disappears and market functioning can be seriously damaged.

This type of downward spiral in the securities markets can be reinforced by the behaviour of the large investors, such as life insurance companies and mutual funds. When large unforeseen

⁶⁶ See Avinash Persaud *Liquidity Black Holes: Understanding, Quantifying and Managing Financial Liquidity*, Risk Books, Dec 2003 or Morris and Shin (2004) "Liquidity Black Holes", *Review of Finance* 8: 1–18.

falls in asset prices of various financial instruments occur insurance companies may be forced to make sell-offs in order to meet the solvency requirement contained in the current regulations. These sell offs could lead to further falls in financial asset prices thus triggering or reinforcing a negative spiral. Many analysts claim that the stock market fall during the spring and summer of 2003 was partly an effect of regulations forcing life insurance companies into sell-offs.

These examples of problems with market liquidity indicate the difficulty of influencing developments by public intervention. Liquidity cannot be produced through regulation. In drafting regulation, however, it is important that the public intervention does not reduce the market's capacity to create and maintain liquidity. In addition, the examples show that there may be a need for a central bank to step in and supply liquidity in certain situations.

Above we have discussed the banks' significance as payment intermediaries and their increased dependence on the financial markets for their financing. The increased dependence on financial markets also applies to the banks' risk management, partly because of their dynamic hedging strategies.⁶⁷ Problems in the financial markets can therefore make both funding and risk management in the banking system more difficult and more expensive. If a liquidity black hole arises, it could rapidly affect the banks and ultimately lead to major problems in the payment systems.

However, the probability of a liquidity black hole arising varies from one market to another. For instance, there is a greater chance of finding willing counterparties in the markets most important to the banks' risk management. Therefore, in these markets, the liquidity problems are more likely to result in more unfavourable prices for the agents needing to trade. However systemic problems cannot be entirely ruled out.

THE INSURANCE MARKET

As mentioned above, the behaviour of the insurance companies can reinforce price changes on different financial markets and thereby contribute to liquidity problems in the worst case. It is more difficult to find market failures in the insurance companies' operations that give rise to systemic problems in the same way as for banks and payment systems. The insurance market lacks the network externalities and concentration tendencies that distinguish the market for payment systems. The liquidity and contagion risks that characterise the bank market are also limited in the insurance market.

Although the risks in, for instance, the property and liability insurance industry can be correlated in connection with natural disasters, these companies are usually sufficiently diversified and reinsured on the international markets to be able to manage fairly large damages that affect an entire industry. Even in the life insurance

⁶⁷ A dynamic hedging strategy entails risk management by means of the holder adjusting his position daily, or almost daily, which therefore requires good access to liquid markets for financial instruments.

industry, the risk of systemic crises is probably limited. If an individual life insurance company suffers financial problems, it will hardly affect the other companies' financial situation. Of course there may be a correlation in the risks to which the companies are exposed, for instance, market risks and changes in the policyholders' expected average length of life.

However, the absence of extreme concentration and liquidity risk means that crises affecting insurance companies often take a slower course. Thus, problems in the life insurance companies may have consequences for the real economy in the long term, but will hardly create a systemic crisis.

The need for consumer protection in the financial sector

The need for consumer protection in various markets is an important and commonly recurring motive for regulation. This is reflected in particular in the general consumer protection laws. It also applies to financial services, and a substantial part of the regulations in the financial sector is justified on the basis of various consumer protection aspects.

Consumer protection is important for several reasons. Firstly, many financial services are essential commodities – for instance, individual households and companies are dependent on being able to receive and make payments in their day-to-day life. Secondly, financial services, such as bank savings, pension savings policies and mortgages, often entail large values for the individual customer. Many people probably have a considerable percentage of their lifetime income in pension savings when they retire. If an individual's entire pension capital were to disappear, there would be severe economic effects for that person. If many people were affected, it could also lead to social and, ultimately, political problems.

Furthermore, there are frequently information problems in financial services. In particular, the information may be asymmetrically distributed between buyer and seller. Consumers of financial services may find themselves at a considerable information disadvantage towards the sellers of these products and services. The information problem arises in that many financial services are also relatively complex and have contract terms and pricing that are difficult to understand. This complexity makes it difficult for people who are not familiar with this sector to make well-founded decisions. The time aspect reinforces the information problem. Many financial services, for instance, pension savings, have a long time horizon where the actual purpose of the services is that they will be consumed in the distant future. This makes it difficult for the consumers to assess the quality of the services and the credibility of the different suppliers on the basis of their own experience.

It is precisely the *combination* of these properties – on the one hand the individual consumer's dependence and vulnerability and on the other hand the information problems – that can motivate special regulation of financial services.

THE SCOPE AND FORMULATION OF CONSUMER PROTECTION

The seriousness of the information problems for consumers is largely related to how the market functions. In an efficient market with limited information problems serious sellers of financial services with long-term aims have strong incentives to observe customers' best interests. Otherwise the customers will turn to their competitors. However, if the asymmetric information problems are substantial and if the market for some reason cannot manage to solve these problems, individual customers will probably suffer. In extreme cases, an existing market may disappear, even though it performs an important function in society.

Also, it is often difficult to define who needs to be protected and against what. It is not always clear who is the consumer. The need for consumer protection also varies between the different types of consumer, depending on knowledge, resources and preferences. Moreover, the needs may vary for different products. Most people can probably accept the risk of losing money in equity trading, but are less prepared to lose deposits in the bankruptcy of a bank.

When two equal parties enter into an agreement on financial services the need for protection is lower. In addition, it is scarcely reasonable to protect even the weakest consumer against all types of risk. Banning or making it difficult for an individual to bear different risks or protecting the customer against all unfavourable outcomes is hardly desirable. At the same time, it may be justified for households to have reasonable protection both for their savings and their access to a number of well functioning financial services.

The appropriate form for the consumer protection also depends on other aspects, such as the purpose of the protection and the financial services concerned. If the consumer protection regulations are primarily aimed at protecting the financially weakest consumers, it may be efficient to focus the regulations on simpler services such as payments, bank loans and deposits. At the same time, information problems are more likely in complicated services such as index-linked bonds. Thus, perhaps consumer protection should focus on this type of services.⁶⁸

One example of a regulation aimed at improving the information to consumers is the Swedish legislation on financial advice. By requiring documentation on the exchange of information when providing financial advice, the service is made more expensive. Consequently, the increased costs could in practice lead to fewer consumers receiving advice. In drafting regulations it is therefore

⁶⁸ There are similarities with other areas, such as health care. Buying simple painkillers is usually fairly easy, while more complicated medications require stronger protection, for instance, in the form of prescriptions from registered doctors.

important to take into account this type of practical consequences when assessing the benefit and costs of the laws.

From a consumer protection perspective, perhaps the most difficult problems arise in the fund management and life insurance markets, where the time aspect is particularly important. Here, the market mechanism is not always an efficient instrument of control, at least from the individual consumer's point of view since the result of the investments is clear only far into the future. The lock-in effects resulting from taxes and charges also hamper changes of saving strategies and suppliers.

A complicating factor is that it is often difficult for the customer to monitor and assess the performance of the companies supplying financial services. If it were possible to write contracts that completely regulated all possible situations between buyers and sellers, the problem would be solved. However, in practice it is impossible to create such complete contracts.

These problems are aggravated by serious conflicts of interest. The conflicts of interest exist between the financial company and the customer and also potentially between different customers of the financial company. The latter type of conflict of interest is particularly evident when financial companies are active in many different fields. Being active in different fields often has advantages from a marketing and efficiency point of view, since the economies of scale can be substantial. At the same time it can give rise to temptations to exploit the customers' information disadvantage or to favour one group of more profitable customers over another group. A natural first step in managing conflicts of interest is to ensure that the customers are informed and aware of them.

Balancing the benefits and costs of regulations

To conclude so far, various types of market failure can motivate financial regulation from both a systemic protection perspective and a consumer protection perspective. However, the regulation may also lead to both direct and more indirect costs as well as a number of other problems.

A general problem in regulation is that it is not sufficient to consider only the deficiencies of the market. If the market cannot solve the problem, it is not certain that a better solution can be found by regulation. In other words, it is possible that both the market and the regulator can fail in this task. A further complication is that it takes time to change public regulations. Therefore, such regulations may obstruct development in an industry where the market conditions are changing.

Experiences also show that regulations, even if they are based on sound motives, can create problems, which in turn have to be

managed by further regulations. It is therefore important, when assessing the costs and benefit of these regulations, to take into account any resulting regulations that may become necessary. As regulations often emerge gradually, there is a risk that the cost will be calculated marginally and not take the entire picture into account. One example is the insurance industry, where regulations to protect the consumer have been gradually extended, and where each individual regulation may appear motivated, but where the total effect of the regulations has resulted in limited competition and efficiency and also created some conflicts of interest.

STABILITY AND EFFICIENCY

One conflict can arise between stability and efficiency in the financial system. It is, for instance, possible to construct almost completely safe payment systems, but they would be expensive and the market agents would therefore probably choose other solutions. The deregulation of the financial markets in recent decades has been a way of increasing the efficiency of the allocation of capital, the management of risk and the execution of payments, partly at the price of a less stable financial system. Many countries with strictly-regulated financial systems pay a price in the form of inefficiency and limited growth. There is also a potential conflict between stability and efficiency. At the same time, a systemic crisis could entail major efficiency losses. A satisfactory degree of stability is thus a necessary condition for economic efficiency. In practice, therefore, finding a reasonable balance between these objectives in regulations is a very delicate task.

COMPETITION

As discussed earlier, economies of scale and network externalities can give rise to monopolies, for instance in systems for clearing and settlement of securities transactions. Also, market failures can motivate regulations to reduce the risk of clearing and settlement systems collapsing. The problem is that systemic risk regulation in this case may further reinforce the concentration tendencies and thereby further obstruct competition. Thus, to achieve well-designed regulation of clearing and settlement systems, the competition authorities also need to monitor the companies offering these systems.

One problem is that regulation is often based on the existing corporate structure.⁶⁹ As a result, incumbents typically benefit at the cost of new entrants. Stock markets in many countries have for instance frequently been national monopolies. With an increasingly international investment environment and with the introduction of electronic trading, the need for a national monopoly has largely

⁶⁹ An exception is the Banking Law Committee (SOU 1998:160), which tried to make a functional analysis, leading to a proposal that certain parts of the deposit market should be deregulated. However, it may be difficult to completely avoid an institutional approach since in the end only companies and not functions can be regulated.

disappeared. In many countries the traditional mutual ownership of these companies has hardly facilitated structural changes in the exchange business. Another example is the regulation of the pension insurance market. Here the collective regulatory framework entails considerable lock-in effects. Therefore, in practice, new companies can only compete for new investment flows. The existing stock of pension insurance funds is in practice only subject to limited competition.

The endeavour to maintain a stable financial system can easily become an excuse to preserve a static system. Changes are necessary and the most efficient producers of financial services should have the opportunity to compete and push out less efficient producers. Consequently, financial companies must also be allowed to go into liquidation. The important thing is that the liquidation can be performed in an orderly manner. The primary purpose is to ensure that customers have access to the main services provided by the financial sector, not to protect the individual financial companies.

DYNAMIC EFFICIENCY

Another potential conflict may arise in the intersection between static efficiency and efficiency in a more long-term, dynamic sense. Economically efficient pricing means that prices are set at marginal costs. However, a consequence of applying such pricing in industries where there are large fixed costs and economies of scale is that these producers may experience difficulty in covering their fixed costs. Marginal pricing would also hamper the financing of the large investments in the financial infrastructure that are needed at regular intervals in order to be able to continue offering certain financial services efficiently.

There is thus a conflict between on the one hand attaining static efficiency using marginal pricing and on the other hand providing scope for change and pressure for structural change, i.e. achieving a more dynamic efficiency. As we observed earlier, this type of conflict is not unique to the financial infrastructure companies. However, given that the regulations motivated by stability or consumer protection reasons can reinforce concentration tendencies and obstruct competing operations, the problem may be amplified for this type of financial company.

We have also indicated other sources of indirect regulation costs, such as moral hazard problems. These can be substantial in the financial system. With, for instance, a public protection against systemic risks the banks may actually increase their risk-taking.⁷⁰ The reason is that the bank's shareholders receive a higher yield if a high-risk project is successful, while the public safety net may be used if the project fails and the bank faces problems. With well-functioning markets and under normal circumstances the problem is

⁷⁰ There is also a type of moral hazard problem between company management and owners, often known as principal agent problems. These differences in incentive will probably increase in a crisis. It would then probably be in the management's interest to take extra risks. If they were successful they could keep their jobs. If not, it is the shareholders' money that has been invested.

probably limited. However, if a bank comes dangerously close to a financial crisis, increased risk-taking may be tempting unless the moral hazard problems are managed in some way. It is therefore important that regulations for systemic reasons try to limit these moral hazard problems.

SPECIAL CONSUMER PROTECTION ASPECTS

On the question of consumer protection, balancing the benefits and costs of the regulation may be particularly difficult. An excessively weak protection may induce consumers to avoid complicated, but potentially very valuable services because the information problems are too large thus leading to efficiency losses in the economy.

On the other hand, as noted previously, overly strict consumer protection could increase the cost of financial services and thereby reduce the supply or limit the number of customers to whom the supply is directed. In extreme cases this could lead to the service disappearing entirely from the market, resulting in a probable efficiency loss. Excessive consumer protection could also reduce the critical evaluation by consumers of the companies producing financial services. It could also reduce the consumers' incentives to question and check the producers' financial risks. In other words, a moral hazard problem arises once again, with negative consequences for both the efficiency and the stability of the economy.

In terms of consumer protection, there is an important boundary between professional agents and non-professional retail customers. The non-professional customers need not comprise only households – that is, consumers in the traditional sense – this category can also include companies.⁷¹ In markets with only professional agents it is difficult to see any significant motive for consumer protection, particularly as the information problems are less pronounced, but also because these agents primarily act as equal counterparties, particularly in the securities markets.

However, regulations aimed at protecting retail consumers but which disturb the functioning of the professional markets can negatively affect the professional agents' supply of financial services in the retail segment. Thus, applying consumer protection regulation to professional markets may be counterproductive without satisfying any essential consumer protection needs. A securities company is usually subject to different rules depending on whether it is doing business with a retail customer or with other securities companies in the wholesale market. If, for instance, the rules a securities broker follows when executing a retail customer's order were applied in all parts to his transactions with other securities brokers, it could become unprofitable for him to continue doing business.⁷² The supply of

71 Evidently, large companies such as Volvo and Ericsson can be retail customers with regard to many financial services. Even the large financial companies can in some cases find themselves in a retail customer situation when they order fire insurance or some other financial service that they do not supply in their own professional capacity.

72 EC Directive 2004/39/EC on markets in financial instruments, contains a number of requirements that can be interpreted this way. The exact interpretation and execution on this directive is not clear, however.

financial services to retail customers could then decline. If the supply of this service disappears, the loss for the consumer would probably be much greater than the possible gain from extended investor protection.

An interesting observation is that even if a fundamental motive behind the consumer protection is based on asymmetric information, only a limited part of the regulations are actually aimed at mitigating these information problems. A large part, for instance various forms of solvency rules, is aimed at managing the symptoms rather than the basic problem. This may be effective in some cases, but it does not make it easier to analyse whether the total benefit of the regulations exceeds the costs.

INTERNATIONAL HARMONISATION OF REGULATIONS

The development towards increasingly integrated financial markets creates a dynamic trend towards harmonisation of rules between different countries. This trend is clear, for instance, in banking, securities trading and accounting. Harmonisation is important, as it probably leads to lower entry barriers and a more efficient allocation of capital and risks globally. This is also the expressed purpose behind most harmonisation.

However there are risks of a more dynamic nature. Harmonisation does not necessarily lead to more efficient rules, as they are often the result of compromises, where the most efficient solution is not always the given outcome. Instead, the regulatory structure may become overly complicated, as all negotiating parties want their special issues included.

Although harmonisation is essentially a positive development, it can have negative consequences. If competition is good for the development of most other operations, it should also be good to some degree for public regulation. When different countries use different strategies for regulation, there is also opportunity to learn from others' mistakes and successes in regulation. Harmonisation leading to a more uniform regulatory structure will reduce these opportunities.

Some implications for financial regulation in Sweden

Although the purpose of this article is not to assess any specific regulation – existing or proposed – we would like to point out some areas where the regulation may not meet the criteria we have set.

The first example is the public management of banks in distress. We have concluded that financial crises can be costly to society and that there is scope for regulation to reduce the risk of crises. At the same time, the banks are fragile and regulation can never be fully inclusive. It is therefore important that clear rules and laws are introduced with regard to the public management of banks in distress. Otherwise there is a clear risk of moral hazard. In countries such as

Sweden, where the banking sector fairly recently has been saved from collapse, it is particularly important to draft regulations to manage this type of potential problem. There is a Swedish proposal for an act on public administration of banks in distress and it is important that the central parts of this are actually implemented and that the regulation is extended to also cover insurance companies.⁷³

The second example comes from the life insurance sector. Our article draws the conclusion that it is difficult to see serious systemic risks in this sector, but that there are clear consumer protection motives for regulating insurance companies. This regulation is already far-reaching. Many of the regulations may appear justified in themselves, but altogether they create lock-in effects, entry barriers and other inefficiencies. It is therefore doubtful whether the sum total of all regulations really produces the desired result. The problem is reinforced by the fact that the regulations tend to distort the entire savings market.

A third example concerns the entry barriers for securities companies. In recent years there have been a number of EC directives aimed at the securities markets, such as the Prospectus Directive, the Market Abuse Directive, the UCITS Directive and the Directive on Markets in Financial Instruments. Although these directives can be justified in themselves, the sum total of all detailed regulations entails a significant burden for the securities companies. There is a risk that the total regulatory burden will discourage new companies from establishing in the securities market and that the market positions of the largest, best established companies will be confirmed.

Concluding comments

An overall economic aim is that economic resources should be allocated efficiently, that is, steered to the projects and investments that are most productive. In this article we have discussed a way of analysing the regulatory structure in the financial sectors.

An important conclusion is that regulation of financial operations should be based on both an analysis of market failures and an evaluation of the benefits and costs of the regulation. Even if this type of analysis of an individual regulation is difficult to execute, it is none the less important. There is otherwise a risk of introducing regulations that counteract their purpose or that impair economic efficiency and thereby affect all citizens in the form of poorer welfare.

Another conclusion is that a financial system which is instable and where consumers are regularly enticed into unfavourable agreements is not fulfilling its fundamental tasks – to execute payments, to allocate capital and to manage and redistribute risk – in an economically efficient manner. There are therefore relevant economic motives for special regulation of the financial sector. At the same time,

⁷³ See SOU 2000:66

the systemic risks only exist in certain parts of the financial sector. The need for consumer protection also varies between different types of customers and between the different financial sub-markets.

The Riksbank has the task of promoting a safe and efficient payment system. A reasonable interpretation of this task is that the Riksbank should primarily try to avoid systemic crises that impair access to the three fundamental functions of the financial system. Rules that affect the stability and efficiency of the financial system are therefore top priority for the Riksbank. An efficient financial sector also presupposes well-balanced consumer protection. However, in Sweden the responsibility for consumer protection in the financial sector lies primarily with Finansinspektionen, the Swedish Financial Supervisory Authority, and the Swedish Consumer Agency. In many cases, competition issues are also special to the financial sector. The Swedish Competition Authority, together with the other institutions concerned, has an important role to play.

Although systemic risk and consumer protection entail different motives in principle, in practice there are a number of overlaps. In the end, many regulations can be justified from both a systemic protection and a consumer protection perspective. Systemic risk regulations aim to ensure access to fundamental financial services, such as payment systems. Thus, these regulations are also very relevant from a consumer protection aspect. Correspondingly, an efficient financial system ultimately requires that consumers have sufficient protection – and thus confidence – to dare to utilise the financial services offered by the system.

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