The Financial Market in Norway 2003: Risk Outlook

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Unless otherwise stated, Kredittilsynet is the source of charts and tables.

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Introduction

Since 1994 Kredittilsynet has systematically analysed and assessed potential stability problems in the Norwegian financial market in the light of developments in the Norwegian and international economy. This is a necessary supplement to Kredittilsynet's ongoing supervision of individual institutions, since significant aspects of the assessment of individual institutions' profitability and financial strength need to be carried out against the background of the general state of the financial market. As from 2003 Kredittilsynet is publishing an annual report giving its view of the state of the financial market and of the various categories of institutions.

Highlights

Based on a review of the results reported by financial institutions and an analysis of the economic prospects, the situation in the Norwegian financial market can be summarised as follows:

Banks' results in 2003 were an improvement on 2002, enabling the Norwegian banking sector to emerge from the recession without major problems. Low losses in the second half-year along with higher revenues deriving from the upturn in the equity market contributed to improved profit performances in 2003. The banking sector's financial position remains satisfactory. However, low interest rates are bringing banks' interest spreads under increasing pressure, and net interest revenues fell further in 2003.

The very low interest rates have appreciably eased borrowers' debt-servicing burden and reduced banks' credit risk in the short term. However, persistent strong growth in household indebtedness in the next few years could lead to debt-servicing problems for a significant number of households once interest rates start to climb again. Spillover effects to real estate markets and parts of the business sector may reinforce the banks' problems if higher interest rates prompt a large number of households to reduce their consumption. Consideration for financial stability calls for a gradual increase in interest rates.

Norwegian banks' liquidity risk diminished somewhat in 2003. Several banks with liquidity problems at the end of 2002 stabilised their position in 2003. For a few banks liquidity at the start of 2004 is on the tight side, and they are finding it difficult to secure long-term funding. Rapid credit growth and declining deposit growth due to low deposit rates will increase banks' need for alternative funding. If this is met via increased short-term funding, liquidity risk will rise.

Life insurance companies' results improved in 2003. Low interest rates and a low equity component in company balance sheets coupled with the need to honour the annual interest guarantee imply a major challenge in terms of assuring a sound long-term return on managed assets. To improve prospects for higher return, shareholders need to give priority to building up buffer capital. At the same time the authorities should consider possible changes in the regulatory framework for long-term pension insurance.

Non-life insurance companies' results showed substantial improvement in 2003. This is mainly due to a sharp increase in financial revenues coupled with improved technical accounts, the latter reflecting continued strong premium growth in 2003. No appreciable increase in premiums appears to be needed ahead.

Higher prices and increased activity in equity markets in 2003 brought higher revenues for investment firms and asset management companies. Up to the start of 2003 their revenues had been substantially reduced in a weak market. Thanks to flexible remuneration arrangements, consolidation in the form of mergers and closures was limited.

Summary

After a weak first half-year, growth in the world economy picked up in the summer and autumn of 2003. Increasing signs that a recovery was setting in prompted upward adjustment of growth expectations, particularly for 2004. Growth is highest in the US, which is leading the recovery at the start of 2004. The steep growth has, however, exacerbated the sizeable imbalances in the American economy. If the US is to continue in its role as the locomotive for growth, the imbalances will continue, contributing to further pressure on the dollar. This adds to the uncertainty of the recovery. The euro zone is already hit by weaker export opportunities due to the appreciation of the euro against the dollar. Should signs arise of a slowdown in the economic recovery, this could translate into lower equity prices and increase the likelihood that low interest rates will persist for some time.

After a steep decline in equity markets lasting three years, a turnaround was seen both in the US and Europe in March 2003. For the year as a whole the market upturn was substantial. This continued into 2004, reflecting investors' optimism and confidence in the recovery. In the Norwegian equity market the turnaround arrived as early as in February 2003, probably thanks to a high oil price which heightened earnings in Norwegian stock exchange locomotives. In the international arena, long rates fell steeply up to mid-2003, rising somewhat thereafter. Norwegian long interest rates also fell, albeit by a larger margin than their foreign counterparts, thereby reducing the interest rate differential.

There is much to indicate that the Norwegian economy bottomed out in the summer of 2003 after three sluggish years. The principal downside was investment, whereas public and private consumption were the main growth components. This reflects an economic situation in which households are on a very favourable trend, while parts of the business sector are feeling pressure on revenues. High growth in

credit to households combined with falling credit demand from enterprises supports this impression. A steep interest rate fall has caused activity and prices in the housing market to pick up once again, accompanied by signs that unemployment is levelling off.

Large conglomerates have a dominant position in the Norwegian financial market, particularly in banking and life insurance. Over time foreign actors have acquired substantial influence in the Norwegian market through establishing subsidiaries and branches. While the merger of DnB and Gjensidige NOR brought into being a large Norwegian financial conglomerate, the merged entity is significantly smaller than the largest Nordic financial conglomerates. Market concentration increased with the establishment of DnB NOR, especially in banking and life insurance. Yet credit market concentration in Norway falls short of levels in the other Nordic countries, even after the merger.

Bank results in 2003 were an improvement on the previous year, but weaker than in 2001. Losses on group companies due to poor insurance results, along with higher loan losses, brought impaired bank results in 2002. In the first half of 2003, losses were still relatively high. With declining losses in the second half-year, overall results for the year 2003 were better than the previous year's. Higher revenues associated with the equity market recovery also contributed to the improvement in 2003, whereas banks' net interest revenues continue to fall. Core capital adequacy in the banking sector held up in 2003. Although the situation in the sector improved somewhat, variations persist. Banks with substantial commitments in the fish farming industry and fisheries have incurred heavy losses. While banks' exposure to the retail market has risen in recent years, losses on retail customers remained low.

Banks' credit risk decreased in the short term in 2003 in the wake of the substantial interest rate reductions from December 2002 onwards. However, households' indebtedness has risen sharply in the past five years, and debt growth appreciably exceeds incomes growth. Debt growth has been strongest among groups with the highest interest burden. Household debt growth is closely linked to the rise in housing prices since more than 80 per cent of bank lending to households is secured on dwellings. Banks' home mortgage loans grew by 15 per cent in the twelve months to the end of 2003. Kredittilsynet's survey of bank loans secured on dwellings, dating from January 2004, shows that the share of loans with a loan-to-value ratio in excess of 80 per cent rose considerably compared with an identical survey in March 2003. In the latest survey loans with a high loan-to-value ratio accounted for more than 40 per cent of total loans, compared with just over 30 per cent in the spring of 2003.

Although credit risk vis-à-vis households has declined somewhat over the past year in the short term, this sector's very high level of borrowing implies rising credit risk in the medium term. Moreover, the possibility that households will further accelerate their debt growth should expectations of persistent low interest rates become entrenched cannot be ruled out. Both borrowers and lenders need to face up to the fact that loans taken out now will also have to be serviced at what might be substantially higher interest rates in the not too distant future.

Calculations show that if the rapid credit growth among households continues in 2004 and 2005, an interest rate back at the 2001 level will, by 2005/2006, mean that close to 440,000 households will face

interest expenses representing more than 20 per cent of their incomes. More than 180,000 households will face an interest burden in excess of 30 per cent. A sudden return, early in 2006, to the interest rates in effect in 2001 is not the most likely scenario, although a gradual return to this level in 2005/2006 cannot be ruled out. Combined with continued strong debt growth this could result in substantial problems for many households with spillover effects to the housing market. In the last banking crisis bank losses on retail customers came to around 20 per cent of total losses.

Enterprises have also significantly increased their debt accumulation during the recovery, and in 2002 their debt burden was above the level in effect at the end of the 1980s. Preliminary estimates show that this trend was reversed in 2003. Due to the expected cyclical recovery and the sharp interest rate fall, credit risk in the corporate sector as a whole seems to have diminished slightly. Some industries remain vulnerable, however, above all those with structural problems such as fish farming and shipbuilding. Indeed Kredittilsynet's survey of banks' exposure to selected industries shows that banks regard loans to these industries as the most risk-prone.

Norwegian banks as a whole have little direct exposure to market risk through equities and other balance-sheet securities. Some banks, however, offer loans to households and enterprises to finance purchases of securities in which the banks retain a collateral. The overall volume remains low and losses are small. However, some banks face an appreciable credit risk on this type of lending.

Banks' liquidity risk edged down slightly in 2003. Several small and mid-sized banks with high liquidity risk and mediocre results faced liquidity problems towards the end of 2002. Some of the most exposed banks improved their liquidity position in 2003 by, inter alia, offering higher interest rates on deposits. Customers face no risk in placing their deposits in unprofitable banks provided the deposits are lower than NOK 2 million per bank, and therefore within the limit of Norway's favourable deposit guarantee schemes. Although the banking sector's liquidity position has improved, a minority of banks face a tough situation at the start of 2004 and report difficulties in securing long-term funding. Rapid lending growth and lower growth in deposits due to low deposit rates will increase the need for alternative funding. If this is met through increased short-term funding, liquidity risk will rise.

After a difficult 2002 the situation for Norwegian banks now seems to have improved somewhat. A more favourable economic trend will help to reduce bank losses ahead. A weaker krone, the international recovery and slow wage growth have dampened the impact of recent years' impairment of several important export industries' competitiveness. The steep fall in interest rates over the past year appears to be stimulating domestic demand, there are signs of a turnaround in the labour market and activity in the housing market has risen. Households will probably be the main driving force in the Norwegian economy in the period immediately ahead. The stage is set for a substantial rise in consumption which will in turn boost activity in the sheltered sector. While lower interest rates stimulate activity in the Norwegian economy, they concurrently lay the basis for increased credit risk in the somewhat longer term.

Life insurance companies' results showed significant improvement in 2003 after weak results in 2001 and 2002. The powerful equity market recovery in 2003, along with capital gains and relatively high

return on the bond portfolio, contributed to the improvement. The low equity component in life insurance companies' balance sheets curbed the positive effects of the equity market recovery, however. Major changes have taken place in the composition of life insurance companies' investments in recent years whereby the share of total assets invested in equities has been substantially reduced while the holding of fixed-income securities has increased. Accumulation of bonds classified as held to maturity continued in 2003. Life insurance companies' exposure to the real estate market in recent years has been stable.

With the current interest rates, life insurance companies face major challenges in assuring their profitability ahead. While the equity market recovery in 2003 facilitated some increase in buffer capital, risk-bearing capacity nevertheless remains weak. By switching from equities to bonds held to maturity, the companies are guaranteed a satisfactory return for some years. However, this strategy limits the companies' opportunity to benefit from the recovery of equity prices. Bond holdings will yield progressively lower return as bonds with a fairly high coupon rate fall due. At today's interest rates it will be difficult for life insurance companies to build up sufficient risk-bearing capacity at the same time as honouring the interest guarantee to their customers. This places a clear constraint on the ability to raise the equity component in the portfolio, and clearly calls for life insurance companies to use a substantial portion of the healthy profit posted in 2003 to strengthen their buffer capital. Possible changes in the regulatory framework should also be considered with a view to promoting a longer-term approach to the management of life insurance companies' portfolios.

Non-life insurance companies' accounts for 2003 show a significant improvement in results of ordinary operations, after very weak performances in 2001 and 2002. The improvement is primarily due to a marked increase in financial revenues, although high premium revenues also contributed after several years of weak technical accounts.

Revenues in investment firms and asset management companies improved in 2003 thanks to rising prices and increased market activity. Price falls and sluggish equity market activity during the recession had led to substantially lower revenues, although flexible remuneration arrangements meant that few firms had been compelled to liquidate. Consolidation in the form of mergers was limited.

A more favourable cyclical trend and a sharp upturn in equity markets improved the Norwegian financial industry's situation in 2003. Bank results changed for the better, and the sector's financial position remains satisfactory. Unprecedented low interest rates have reduced banks' credit risk in the short term, and the stage may be set for lower losses in 2004. However, Norwegian households' situation could lead to an increase in banks' credit risk in the somewhat longer term. Continued very high credit growth and a further increase in the household sector's debt burden in the next few years could lead to debt-servicing problems for a significant number of households when interest rates normalise. Banks' problems may be exacerbated if imbalances concurrently build up in the housing market. Should a large number of households find it necessary to reduce consumption in order to strengthen their financial position, there will be repercussions for much of the business sector.

1. Economic conditions and markets

The dismal trend in the international economy in 2002 continued in first half of 2003. As from the second half-year, however, the international economy has been on a positive trend. Activity in the US economy began to pick up, accompanied by healthy growth in much of Asia. China has emerged as Asia's locomotive, stimulating growth elsewhere in the region. The positive trend in the world economy has persisted into 2004, and most forecasting institutes expect the cyclical recovery to continue this year and into 2005.

Economic growth in the US picked up in the second half of 2003, supported by a highly expansionary monetary and fiscal policy and a gradually weaker dollar. Tax reliefs combined with low interest rates and a buoyant equity-market trend fuelled rapid growth in private consumption. Although the labour market outlook is still somewhat uncertain, and the housing market showed signs of slackening towards the end of 2003, consumer confidence remains relatively high, as does business confidence. At the same time tax reliefs and increased spending to combat terrorism and fund the war in Iraq brought a deficit estimated at 4.5 per cent of GDP on general government budgets for 2004. In view of the weak inflationary outlook the central bank has kept its key lending rate at 1.0 per cent since June 2003. Low interest rates have contributed to a weaker dollar. A large and growing trade deficit suggests that the dollar is set for an unstable period ahead. The trade deficit – especially with China – has widened in recent years. This, together with much idle capacity in American enterprises, brings in its wake low price inflation and low interest rates.

The US economy remains the locomotive for growth in the global economy. Stronger growth in the US than elsewhere will reinforce the imbalances in the US external account. Although most forecasting institutes believe that growth has now begun to take hold, the outlook for the huge balance of payments deficit remains uncertain. The International Monetary Fund has commented that the US imbalances could threaten global economic stability.

Table 1.1: Growth forecast

	US		Euro area		Japan		Norway	
	2003	2004	2003	2004	2003	2004	2003	2004
GDP	3.1	4.6	0.5	1.8	2.3	2.1	0	2.8
Inflation	2.3	1.6	2.1	1.7	-0.2	-0.3	2.5	1.3
Unemployment	6	5.8	8.8	8.8	5.3	5.1	4.5	4.4

Sources: Consensus Forecasts, 12 January 2004; Economic Analyses 6/2003, Statistics Norway

The past two years' fall in the dollar began while US growth prospects were weak, yet has continued concurrently with the pick-up in activity levels in the US. The dollar's movements reflect the risk

inherent in the international imbalances, which must be adjusted in the longer term. Further rapid dollar corrections could affect the world economy and inhibit an international upswing. The funding of the trade deficit through Asian central bank purchases of US government bonds has kept long interest rates down and dampened the dollar's fall. Given the sizeable trade surpluses being built up by Asian countries, it is uncertain how long Asian exchange rates can be kept down. Geopolitical turbulence or trade policy friction could set the stage for rapidly rising interest rates and a further marked fall in the dollar, and a poor collaborative climate in the international arena could impair economic growth in the medium term.

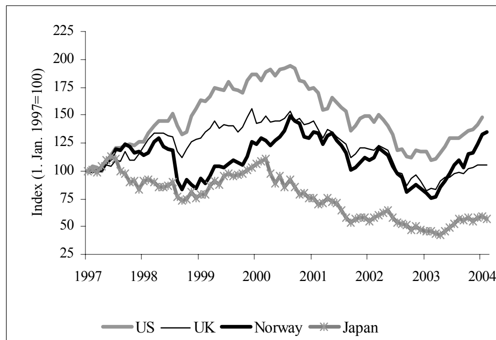
The picture in the rest of the world is mixed. Much of the euro area shows low growth, due both to structural features and to the fact that last year's appreciation of the euro put a damper on exports. Some of the large countries in particular are struggling. Flexible interpretation of the stability pact may help the euro area to move forward. EU enlargement as from 1 May 2004 is likely to have differing short and medium term effects. Japan and much of Asia developed well in 2003. At the end of 2003 unemployment in Japan was at its lowest level in more than two years, but the country is still prey to deflation. China's vigorous growth, officially 9.1 per cent in 2003, has boosted exports growth elsewhere in Asia, which has in turn strengthened domestic markets in the region. At the same time high exports from low-cost Asian countries have given very weak inflationary impetus to the rest of the world, and are an important reason why we now appear to be facing an international cyclical recovery without inflationary pressures.

In Sweden, export activity picked up somewhat in the autumn of 2003. Low interest rates and an improved international economic climate are also expected to spur activity levels ahead. The growth in exports witnessed in 2003 is expected to continue, although somewhat weaker domestic demand growth along with low price and cost impulses prompted the Swedish central bank to cut its key lending rate to 2.5 per cent at the start of 2004. The jobless rate rose to about 5 per cent in 2003 and, given idle capacity in manufacturing industry, unemployment is at best expected to edge down in 2004. Denmark's economy developed very weakly in the autumn of 2003. Sluggish exports led to falling GDP in the second half of 2003, and in December joblessness rose to 6.6 per cent. In Finland, household consumption has held up growth during the recession. Tax reliefs are expected to fuel continued sound growth in service industries. Due to technology's predominance in the market, the Finnish economy traditionally responds very rapidly to an international upswing. However, last year's appreciation of the euro may dampen the traditional response.

The negative trend in equity indices and interest rates witnessed in the second half of 2002 continued into the first quarter of 2003, and weak business results and uncertainty surrounding the conflict in Iraq prompted investors to reduce their equity market exposure. Given the expectations of improved earnings and a brighter economic outlook, the markets turned around in the first quarter of 2003, and have moved upwards since then. All in all 2003 proved a good year for international investors. Broad-based benchmarks in the US and UK rose by over 20 per cent. The upturn has continued thus far in 2004. The equity market recovery is supported by highly expansionary monetary policies across much of the world, especially in the US. A low global inflationary outlook suggests low central bank rates

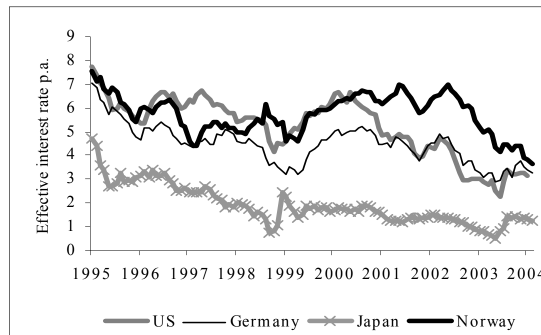
ahead, despite the heralded cyclical recovery. After US long rates temporarily fell to historically low levels in the summer of 2003 on the back of extensive deflationary speculation, they largely moved sideways through the autumn and winter.

Chart 1.1: Equity markets



Source: EcoWin

Chart 1.2: Long interest rates



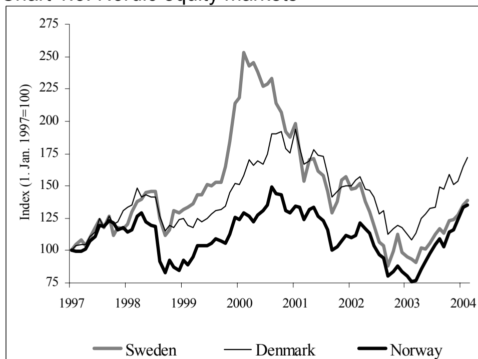
Source: EcoWin

The oil price has been high for a long time, over the past year in the upper range of – and partly over – OPEC's price band. Several factors explain the high price, including increased demand resulting from improved economic conditions, negligible exports from Iraq and a weaker dollar. The cold winter in the US combined with a smaller supply of natural gas have also contributed.

Oslo Børs (Oslo Stock Exchange) rose by more than 48 per cent in 2003 after falling 31 per cent in 2002. Between the trough in February 2003 and mid-February 2004, Oslo Børs' all-share index rose by almost 92 per cent. The surge is to some extent liquidity driven as, in a short space of time, substantial reinvestments generated disproportionately heavy demand and thus sharp price growth. Of Oslo Børs' sub-indices, the ICT index climbed the most in 2003. Trading in equities and primary capital certificates on Oslo Børs rose by 24 per cent over the year.

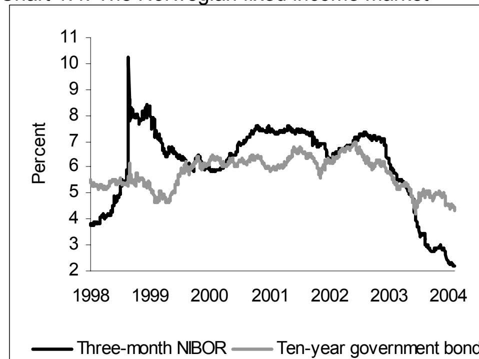
As a result of a very low inflationary outlook, Norges Bank (The Central Bank of Norway) cut its key rate by 5 percentage points to 2.0 per cent between December 2002 and January 2004.

Chart 1.3: Nordic equity markets



Source: EcoWin

Chart 1.4: The Norwegian fixed income market



Source: EcoWin

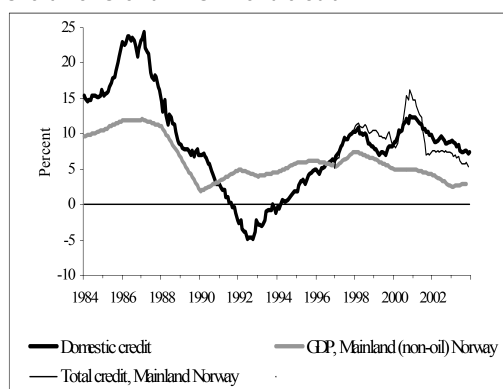
The interest rate cuts have substantially narrowed the interest rate differential against foreign countries, which has in turn weakened the value of the Norwegian krone. In terms of its trade-weighted exchange rate index, the krone depreciated by about 12 per cent in 2003, and by a further 5 per cent up to mid-February 2004.

In contrast to the US and the euro area, long interest rates in Norway were on a downward trend throughout 2003. Falling interest rates and rising equity prices were accompanied by high activity in the Norwegian bond market. Overall turnover in the secondary market increased by 44 per cent. Disregarding the new arrangement involving repurchase agreements that allow for netting, the increase was 26 per cent.

Norges Bank's interest rate cuts, the depreciation of the krone and the trend in securities markets combined with rapid household credit expansion have given the Norwegian economy substantial impetus over the past year. This has contributed to an upswing in the Norwegian economy after a long period of sluggish activity. The cyclical trough was probably reached at the start of the second half of 2003. By that point, GDP growth had slipped for four consecutive quarters. A healthy trend in disposable income for several years, driven in 2003 by lower interest rates and subsiding inflation, has turned household consumption into an important contributor to economic growth. Traditional exports, in particular wood-processing products and foodstuffs, also contributed to the growth witnessed in 2003.

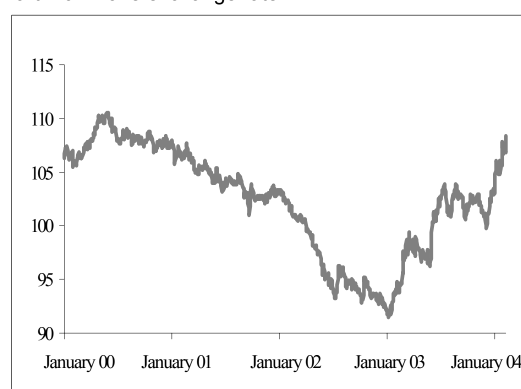
However, parts of the enterprise sector still face profitability problems after a period of high wage growth, high interest rates and a strong krone. This winter's depreciation of the krone, and the improvement in the international economy are expected to make a positive contribution to the competitively-exposed sector ahead. Even so, investment activity remains low in most sectors, with the possible exception of parts of the sheltered sector. In addition, several municipalities now face economic problems resulting in increased unemployment in occupations such as teachers and public health personnel. According to Statistics Norway's labour force survey, unemployment has levelled off at about 4.5 per cent, although it is uncertain how far this is structural. Last year's increase in unemployment was accompanied by lower price inflation. In January 2004 consumer price growth was -1.8 per cent, the steepest year-on-year price fall since December 1947. The low growth in prices is primarily a late effect of the krone appreciation in the winter of 2002-2003, falling electricity prices and housing rentals along with higher imports from low-cost countries such as China.

Chart 1.5: Growth in GDP and credit



Sources: Statistics Norway and Norges Bank

Chart 1.6: Krone exchange rate

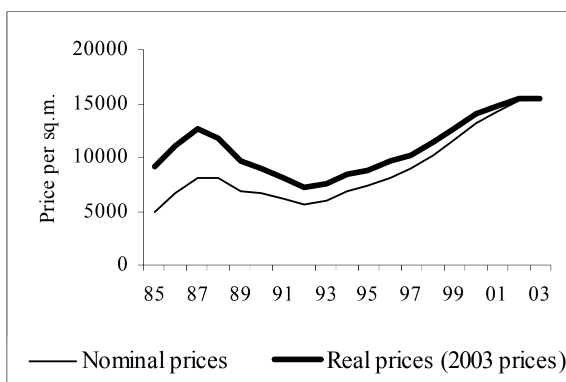


Source: EcoWin

Weak price inflation resulted in lower central bank lending rates in 2003, despite significantly divergent paths followed by households and enterprises. The divergence is clearest in the credit market. Year-on-year growth in domestic credit was at 7.4 per cent at the end of 2003. Whereas business sector borrowing from domestic sources started to edge down in the autumn of 2002, growth in credit to households has been stable for several years at about 10-11 per cent. In December 2003, growth in credit to households was 11.3 per cent. Concurrently non-financial enterprises' debt growth was -0.8 per cent. Banks' credit growth was 8.0 per cent in December. Year-on-year growth in total credit, including credit from foreign sources, was 5.1 per cent in November 2003, whereas growth in total credit to Mainland Norway (excl. oil and shipping) was 5.4 per cent.

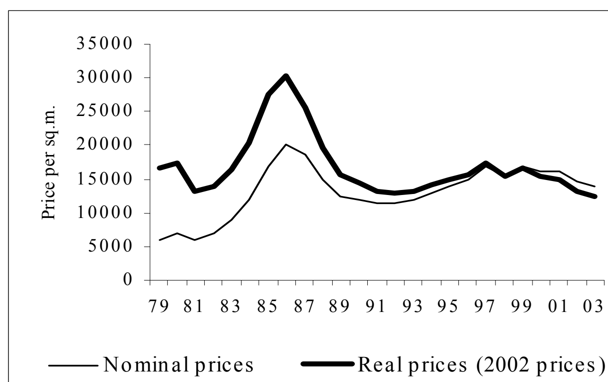
The steep growth in credit to households is partly related to many years of rapidly rising housing prices. The housing market was somewhat atypical in 2003, picking up during the autumn after a weak spring season. Figures from estate agents indicate that housing prices were about 10 per cent higher in January 2004 than in January 2003. Real and nominal prices alike are now substantially higher than in the mid-1980s. In fact, compared with the peak year 1987, prices in January 2004 are 108 per cent higher in nominal terms and 28 per cent higher in real terms. Sound household income growth through the 1990s explains this trend. In 2003, however, interest rate reductions were the key factor behind the price rise. A low supply of houses may also have contributed.

Chart 1.7: Housing prices



Sources: NEF, EFF, FINN.no and ECON

Chart 1.8: Price of office premises in Oslo



Sources: OPAK and Kredittilsynet

The market for commercial properties has been weak in the last couple of years. Office premise values have been on a negative trend since 2000 in both nominal and real terms. Values of office buildings in Oslo are now significantly lower than at the end of the 1980s: 30 per cent down in nominal terms and about 59 per cent lower in real terms than at the peak in the mid-1980s. Eiendomsspar (a property company), puts the vacancy rate for office premises at the start of 2004 at 11 per cent, a clear increase over last year. While unemployment appears to have levelled off in the winter of 2004, OPAK's rental prices for office premises show that the general fall in rental prices has also slowed, apart from in the lowest price segments. However, rental prices for office premises can be expected to remain low for a while yet. Continuing imbalances in property markets limit the upside potential in the short term.

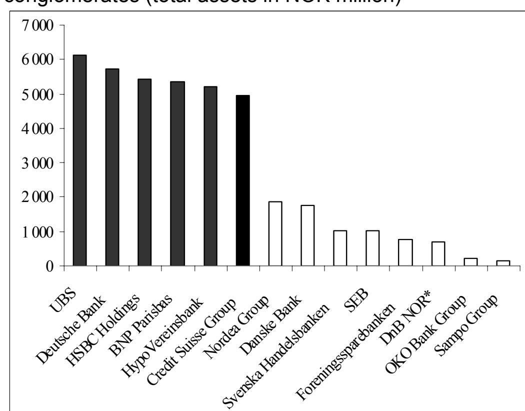
2. Financial institutions

Financial institutions' financial position needs to be assessed in light of the trend in economic conditions and markets, discussed in Chapter 1. The upturn in securities markets and a more favourable economic climate than hitherto led to improved results for all financial institutions. This chapter starts by briefly describing important features of the financial market structure. It then summarises results reported in 2003 by banks, mortgage companies and finance companies, life insurance companies, pension funds, non-life insurance companies and investment firms.

Financial market structure

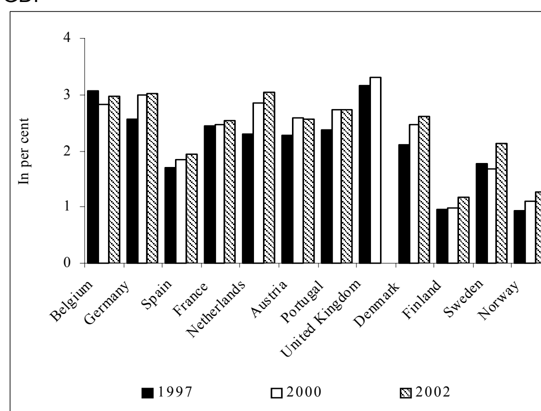
Market integration, deregulation and changes in technology and demography are driving forces in the ongoing evolution of financial markets. Mergers, acquisitions and alliances have been a feature of international developments over the past 10-15 years. Structural change is also a feature of the Nordic financial market, which has seen the emergence of several major Nordic actors. Compared with the rest of Europe, where most mergers and acquisitions have taken place within national borders, the trend in the Nordic region and the BeNeLux countries has favoured cross-border establishments. The largest Nordic actors regard the Nordic region as a single market.

Chart 2.1: The largest European and Nordic financial conglomerates (total assets in NOK million)



* Figures: DnB NOR as of 30 September 2003
(Source: DnB NOR)
Source: The Banker

Chart 2.2: Credit institutions' total assets in relation to GDP

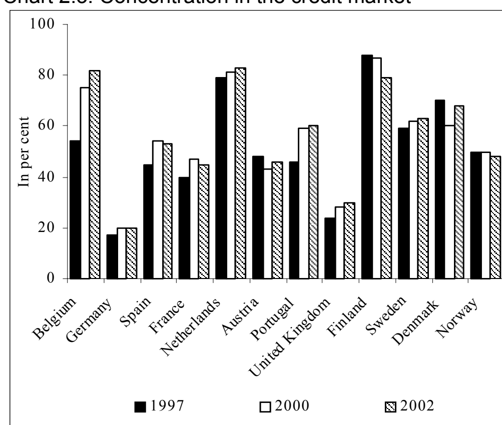


Source: ECB/Kredittilsynet

The largest financial conglomerates in the Nordic region are small by European standards (see Chart 2.1). Even after the merger of DnB and Gjensidige NOR, the largest Nordic entities are more than twice the size of the largest Norwegian one. As shown in Chart 2.2, the credit market, measured in terms of GDP, was appreciably smaller in Norway and Finland than in other Nordic and European countries at the end of 2002.

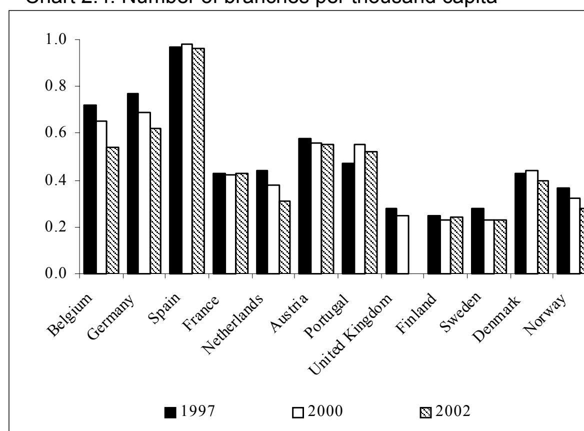
Financial market concentration has increased in most countries. Concentration is nonetheless low in countries such as Germany and the United Kingdom but substantial in Belgium, the Netherlands and Finland (see Chart 2.3). Concentration in the Norwegian market is lower than in other Nordic markets. After the merger of DnB and Gjensidige NOR the combined total assets of the five largest credit institutions account for 50 per cent of aggregate total assets in the Norwegian credit market.

Chart 2.3: Concentration in the credit market



Five largest credit institutions' share of aggregate total assets
Source: ECB/Kredittilsynet

Chart 2.4: Number of branches per thousand capita



Source: ECB/Kredittilsynet

The number of Norwegian credit institutions has decreased over the past ten years, while the number of foreign-owned institutions and branches has risen. The number of credit institutions in the Norwegian financial market is relatively large compared with, say, Sweden or Denmark. At the end of 2002 there were 213 credit institutions in Norway compared with 216 in Sweden and 178 in Denmark at the same point in time. The number of branches has decreased in most countries (see Chart 2.4). In the Nordic region only Denmark had more branches per 1,000 capita than Norway. Developments in technology enable credit institutions to deliver financial services in new, cost-effective ways, and the need for a local presence in the shape of a broad-based branch network has diminished. The steep fall in banks' interest spreads suggests that competition has been intense and that structural and technological changes have benefited the customer.

The markets for life insurance in the Nordic region has also seen substantial consolidation. In Norway the number of companies has fallen from thirteen to six over the past 15 years. The majority of companies are a part of financial groups. Total assets in the four largest life insurance companies constituted 84 per cent of the market at the end of 2003, and the merger of the life insurance businesses

of DnB and Gjensidige NOR in 2004 will further increase concentration. Even so, competition is substantial. In the case of life insurance products featuring a sizeable saving element, life insurance companies compete with other providers of savings products such as banks and securities funds. Where group occupational pensions are concerned, life insurance companies operate in the same market as private and municipal pension funds.

The Norwegian non-life insurance market has seen a series of mergers of mid-size and small companies. There have also been a number of new establishments, including captives set up by major industrial groups. In addition, special-purpose companies featuring simpler and cheaper administration have been established for the retail market. Even so, the three largest companies accounted for about 70 per cent of the total market for non-life insurance at the end of 2003.

The Norwegian financial market is marked by the growing presence of foreign financial institutions as well as the emergence of bank alliances and large, mixed financial groups offering a broad range of financial services. Table 2.1 shows market shares of the largest financial groups and other companies in Norway in various business areas at the end of 2003. The large financial groups in Norway hold a dominant position, particularly in banking and life insurance.

Table 2.1: Structure of the Norwegian financial market at end-2003

	Banking market Per cent of total assets	Finance & mortgage company market Per cent of total assets	Life insurance market Per cent of total assets	Non-life insurance market Per cent of gross premium
DnB NOR	40.6	16.2	33.4	25.9
Nordea	13.9	6.3	5.8	0.0
SpareBank 1 / Collab. savings banks	11.4	0.8	2.9	7.5
Storebrand	1.4	0.0	25.8	0.2
Terra Group	6.7	0.1	0.0	1.6
Total financial groups	**74.0**	**23.3**	**67.9**	**35.3**
Other companies	26.0	76.7	32.1	64.7
Total	**100.0**	**100.0**	**100.0**	**100.0**
of which foreign branches in Norway	*10.7*	*6.5*	*0.0*	*30.8*
of which foreign subsidiaries	*16.7*	*3.3*	*5.8*	*17.0*

For the SpareBank 1 Group and the Terra Group, the parent banks are included in the market shares. DnB NOR has a strategic cooperation agreement with Gjensidige Forsikring. Vesta has a cooperation agreement with Nordea.

Foreign branches' and subsidiaries' shares of the Norwegian financial market have risen appreciably in recent years. The foreign share of the banking market has risen to 27 per cent, mainly in the shape of branches and subsidiaries of Swedish and Danish banks. Nordea has announced the conversion of Nordea Bank Norway to branch status. The Norwegian business sector also borrows from foreign banks which are not physically located in Norway. Such borrowing accounts for about 20 per cent of overall loans to the business sector. Loans are also raised in foreign securities markets. Substantial foreign influence is also a feature of the Norwegian life and non-life insurance market. At the end of 2003 foreign subsidiaries and branches accounted for close to 50 per cent of total assets in the non-life

insurance sector, of which If holds a substantial market share. Nordea Liv's share of the life insurance market was almost 6 per cent.

Banks

Banks' results in 2003 were an improvement on the previous year. Pre-tax results rose by 0.22 percentage points to 0.80 per cent of average total assets. Return on equity increased from 6 per cent in 2002 to almost 10 per cent in 2003. When assessing these results it should be kept in mind that the market's required return on equity falls when interest rates fall.

After heavy loan losses in 2002, partly as a result of the Finance Credit affair, low losses in the second-half of 2003 contributed to lower loan losses for 2003 as a whole. The banks posted a marked improvement in other revenues, due above all to the upturn in securities markets. The improved performance in 2003 is also related to the deficit in SpareBank 1 Gruppen in 2002 which substantially reduced other revenues for the banks comprising SpareBank 1 Gruppen. However, the steep interest rate fall in 2003 put considerable pressure on the banks' main source of revenue, net interest revenues (interest revenues less interest expenses). In terms of average total assets, net interest revenues fell appreciably compared with 2002, and are at their lowest level in a long time. The number of banks in a deficit position was halved from 2002 to 2003. It was essentially small banks that posted negative results in 2003 (see Chart 2.6).

Chart 2.5: Loan losses and results before tax

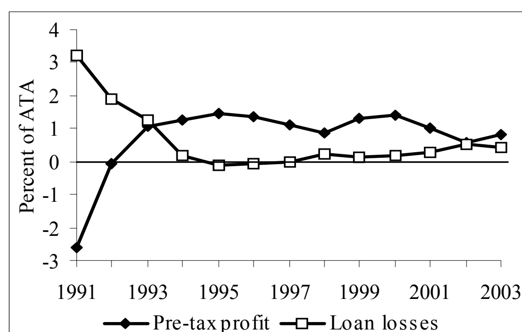


Chart 2.6: Share of aggregate total assets in banks with profit in various intervals

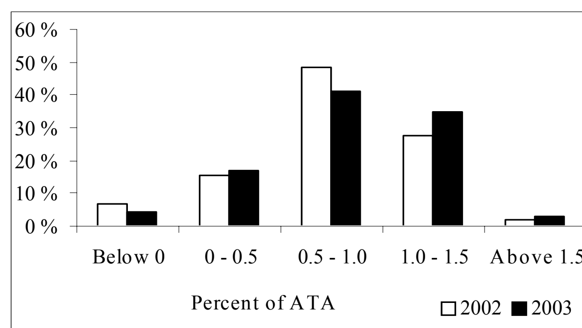


Chart 2.7 shows the results trend for the three largest banks (DnB including Nordlandsbanken, Union Bank of Norway and Nordea Bank Norway), other commercial banks and other savings banks. All three groups of banks reported improved results in 2003. Results for other commercial banks were still weak, however. Chart 2.8 illustrates the trend in banks' net interest revenues in terms of average total assets for the period 1995-2003. The savings banks show a higher deposit-to-loan ratio than other banks, contributing to a higher level of net interest revenues. The decline in net interest revenues has been substantially larger for the savings banks than for other banks in the past eight years. For the banks as a whole, net interest revenues accounted for close to 70 per cent of operating revenues in 2003.

The recovery in securities markets contributed to improved results in 2003 through capital gains on equities, at the same time as the interest rate fall through the year produced capital gains on fixed-income securities. Despite a strong increase in wage costs, cost growth was substantially lower than the growth in total assets in 2003.

Chart 2.7: Result before tax (as per cent of total assets)

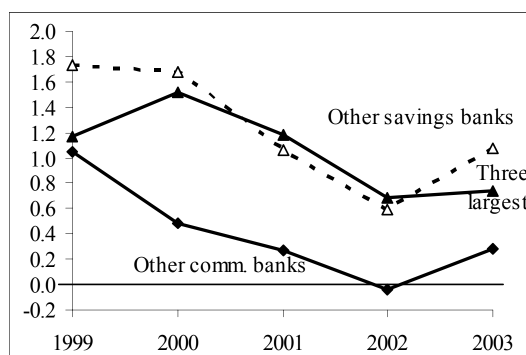
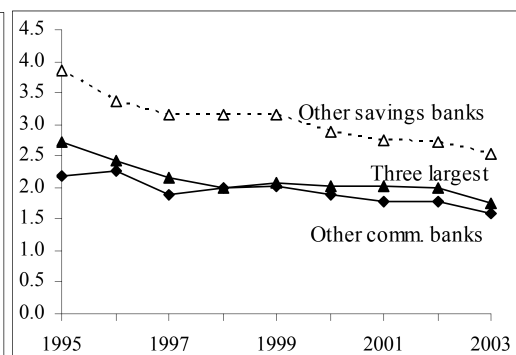
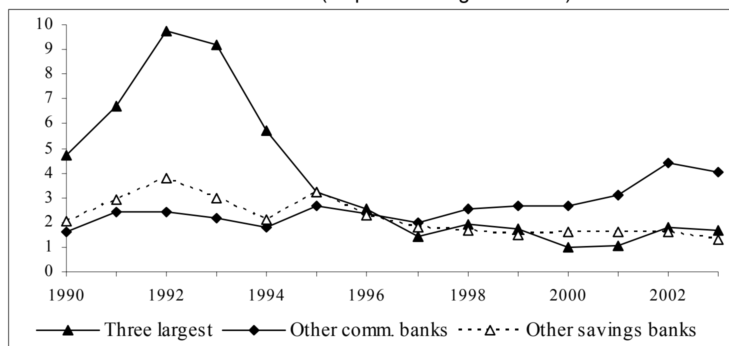


Chart 2.8: Net interest income (as per cent of total assets)



Loan defaults as a ratio of gross outstanding loans declined in 2003, and fell to 1.7 per cent of gross outstanding loans in 2003. Aggregate defaults for all banks fell by 5 per cent from end-2002 to end-2003 and by 17 per cent in the last quarter of 2003.

Chart 2.9: Total bank loan defaults (as per cent of gross loans)



Norwegian banks' loan losses were particularly high towards the end of 2003. A key reason was the heavy losses on Finance Credit. Losses were also relatively high at the start of 2003, the largest of them incurred by banks exposed to problems in the fish farming industry. On the other hand, in the second half-year, which has usually seen heavier losses, the banks as a whole made only moderate loss provisions. Even so, the years 2002 and 2003 were the two years featuring the highest losses since 1993. The trend in defaults and the low level of losses in the second half-year indicate lower losses in 2004, assuming the favourable economic trend continues.

Core capital adequacy for the banking sector as a whole at the end of 2003 was approximately unchanged from the end of 2002. For the past year the three largest banks combined show some weakening of capital adequacy, while other savings banks and other commercial banks show a clear

improvement. Several banks issued new capital, both equity capital and hybrid capital, while some reduced their risk-weighted assets by trimming back their balance sheet.

Chart 2.10: Loan losses (as per cent of loans)

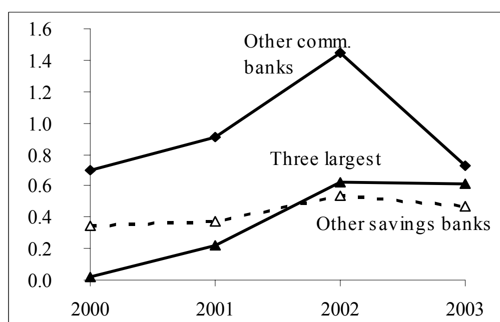
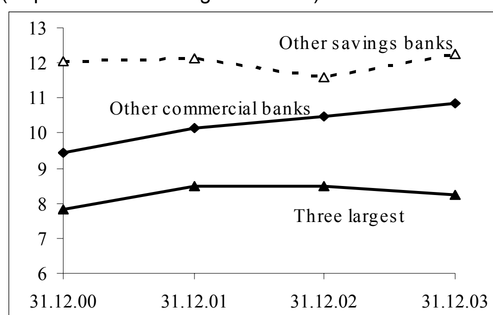


Chart 2.11: Core capital adequacy (as per cent of risk-weighted assets)

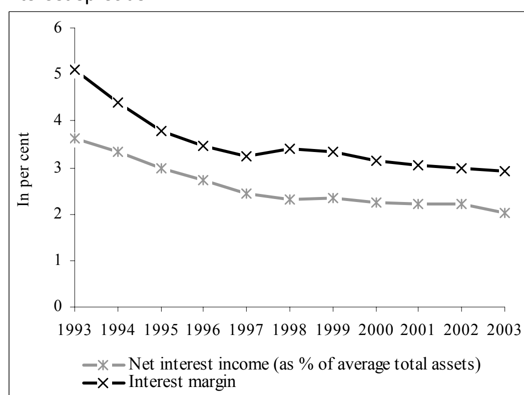


Banks' overall lending growth was relatively stable in 2003, between 6 and 7 per cent (not corrected for exchange-rate changes). Growth was highest for the group of savings banks at about 9 per cent, while other commercial banks reported a 5 per cent reduction in lending volume. The largest banks recorded growth of just over 7 per cent last year. The declining interest rate level made traditional bank deposits less attractive in 2003, resulting in deposit growth of just under 3 per cent in the 12 months to year-end. This reduced the banks' deposit-to-loan ratio and sharpened the need for other sources of funding.

Competition and margins

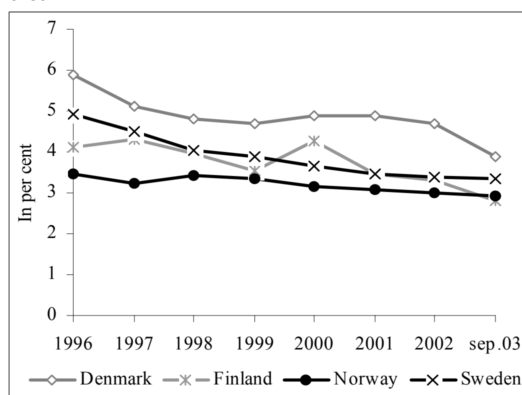
The substantial consolidation and restructuring in the financial market in general and the banking market in particular has been accompanied by an appreciable reduction in interest rates and net interest revenues. Chart 2.12 shows that Norwegian banks' interest spreads fell throughout the 1990s, contributing to a reduction in banks' net interest revenues as a ratio of total assets. Interest spreads were at an historically low level at the end of the third quarter of 2003. Falling interest spreads suggest intense competition. Declining net interest revenues represent a challenge to the banks in terms of cost trend and efficient operation. The trend in interest spreads in Norwegian banks matches the trend elsewhere in the Nordic region (see Chart 2.13).

Chart 2.12: Norwegian banks' net interest income and interest spreads



Interest spread as of 30.09.2003
Sources: Kredittilsynet and Norges Bank

Chart 2.13: Interest spreads in the Nordic area



Source: Nordic supervisory authorities

Finance companies and mortgage companies

Finance companies' results for 2003 were approximately on a par with the previous year. A marked increase in net interest revenues was neutralised by higher book losses. Net loan defaults rose by 5 per cent compared with 2002, measuring 1.7 per cent of gross outstanding loans.

Mortgage companies' results have stood at a stable level in recent years. The overall result for 2003 was marginally better than for the previous year. Losses remain small and the default rate is low.

Chart 2.14: Results before tax

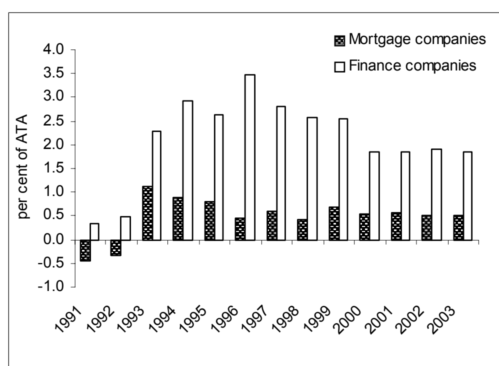
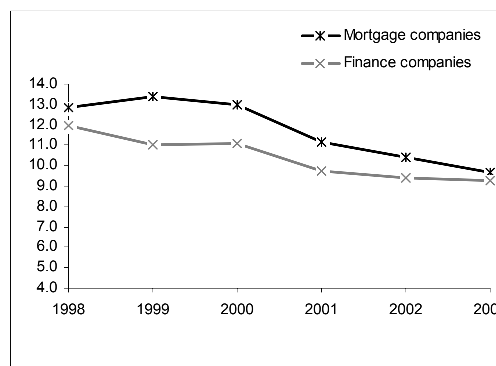


Chart 2.15: Core capital as per cent of risk-weighted assets



Finance companies' lending growth has been high in recent years. Since 1998 lower corporate borrowing has gradually reduced Norwegian finance companies' lending growth to its current level of about 12 per cent, while branches of foreign companies show significantly lower growth. Over time strong lending growth has weakened core capital adequacy, and at end-2003 finance companies' core capital ratio stood at 9.3 per cent. Mortgage companies increased their lending by 15 per cent in 2003 and, in their case too, core capital adequacy was weakened by strong growth in lending. At the end of 2003 mortgage companies' core capital ratio was 9.7 per cent, a reduction of 0.7 percentage points from the previous year.

Life insurance companies

Life insurance companies' results essentially reflect the trend in securities markets. The vigorous market recovery in 2003 brought improved results for life insurers. The companies have been reducing the equity component in their investments for several years, primarily in favour of bonds held to maturity. The low equity component at the start of 2003 curbed the impact of the equity market recovery on life insurance company performances.

Life insurance companies' book return on capital came to 7.3 per cent in 2003 compared with 2.1 per cent in 2002. Value-adjusted return, which incorporates value changes on short-term financial assets, was 8.9 per cent in 2003 compared with 1.9 per cent in 2002. Whereas the return on capital shows the companies' return on their financial assets, the accounting result includes all revenue and expense

elements. The result before the new supplementary provisions, allocations to customers and tax was NOK 10.9 billion (2.5 per cent of average total assets) in 2003, an improvement of NOK 13.3 billion from the previous year. The value-adjusted result, which includes changes in fluctuation reserves, was NOK 17.7 billion in 2003 (4.1 per cent of average total assets) compared with a negative NOK 3.5 billion in 2002.

Life insurers' total premium revenues, adjusted for transfers, showed an increase of 12 per cent in 2003. Net revenues from financial assets totalled NOK 36.3 billion in 2003 compared with just NOK 7.3 billion the previous year. The improvement was partly due to sizeable price losses on equity disposals in 2002. Losses on this item in 2003 were low, at the same time as unrealised capital gains showed an appreciable increase.

Chart 2.16: Trend in life insurance companies' average return on capital

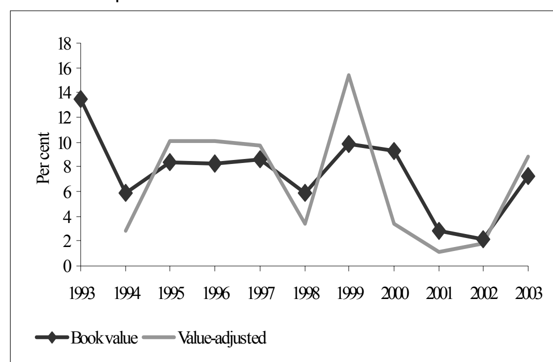
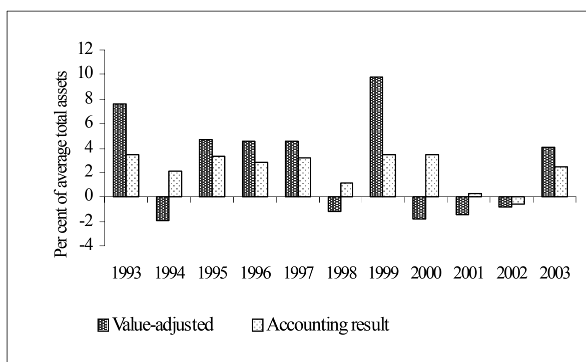


Chart 2.17: Life insurance companies' results



All companies met the capital adequacy requirement of 8 per cent. Their risk-carrying ability strengthened somewhat in 2003, but remained weak. Buffer capital measured 5.5 per cent of the companies' total assets compared with 3.4 per cent at the end of 2002. See Chapter 4, "Pension saving in life insurance companies", for an elaboration on the situation of life insurers.

Pension funds

The results reported by a selection of private and municipal pension funds with a combined market share of 80 per cent showed a clear improvement in 2003 after a weak year in 2002. Several of the major pension funds refrained from selling off equities in 2002, and entered 2003 with a relatively high equity component. This contributed to good results compared with the life insurance companies. Pension funds' overall book return on capital came to 8.8 per cent in 2003 compared with a negative 2.7 per cent in 2002. Value-adjusted return on capital in 2003 was 13.2 per cent compared with a negative 3.3 per cent the previous year, while life insurers showed a value-adjusted return of 8.9 per cent.

Chart 2.18: Private pension funds' return on capital

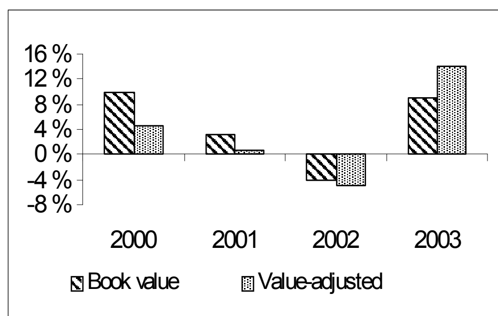
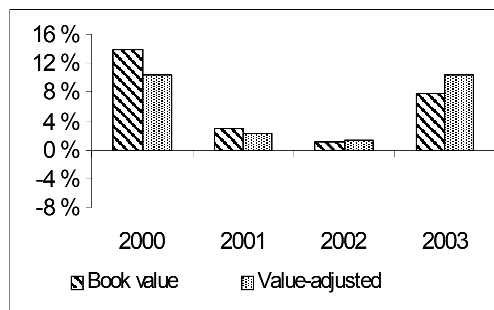


Chart 2.19: Municipal pension funds' return on capital

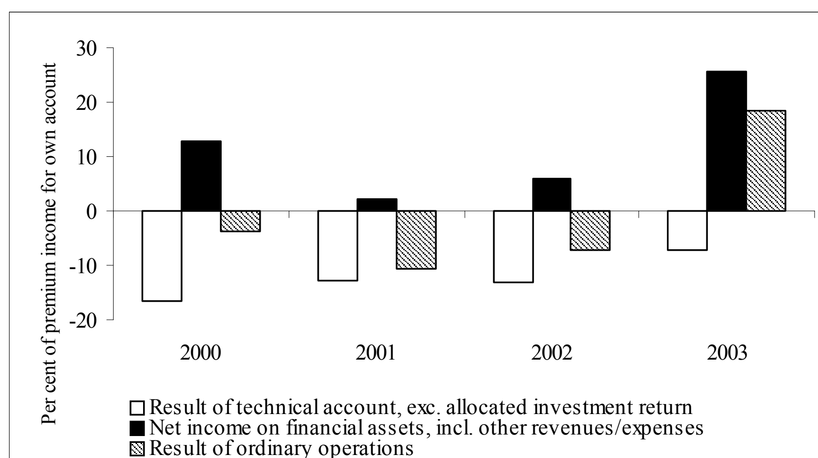


Private pension funds showed a value-adjusted return of 14.1 per cent in 2003. This is substantially higher than the 10.4 per cent achieved by municipal pension funds. Whereas private pension funds' equity component totalled 18.5 per cent at the start of 2003, their municipal counterparts' equity component was just under 10 per cent.

Non-life insurance companies

The three largest non-life insurance groups (Gjensidige NOR Forsikringsgruppen, Vesta Skadekonsern and SpareBank 1 Skadeforsikring) represent about three-fourths of the Norwegian market excluding branches of foreign companies. The three groups reported a combined result of ordinary operations of NOK 3.4 billion in 2003 compared with a deficit of NOK 1.2 billion in 2002. The improvement is essentially due to a sharp increase in financial revenues compared with 2002, but also to a clear improvement in technical results. The high financial revenues reflect a value increase in bond holdings resulting from lower interest rates, along with the equity market recovery in 2003. The improved technical result was offset somewhat by lower transfers from non-technical to technical accounts.

Chart 2.20: Results of the three largest non-life insurance groups



The results for 2003 showed continued high premium growth, in fact larger than the growth in claims expenses and operating expenses. This led to a marked improvement in the claims ratio (technical operating expenses as a per cent of premium revenues for own account). For the three groups combined, the claims ratio fell from 81.4 in 2002 to 79.0 in 2003. The expense ratio fell from 24.3 to 22.6 in the same period.

Non-life insurance companies' own funds expanded sharply in 2003 on the back of the good results. All non-life insurers met the capital adequacy requirement at the end of 2003.

Investment firms

It is useful to distinguish between investment firms which are banks, which offer investment services in connection with ordinary banking operations, and institutions which are not banks. At the end of 2003 87 investment firms held a licence from Kredittilsynet. Fifteen of these were banks. Banks' revenues from investment services are largely linked to traditional banking activity such as trading in foreign-exchange and interest-rate instruments. As shown in Chart 2.21, investment firms which are banks posted operating revenues totalling NOK 3.1 billion in 2003, a reduction of 1 per cent from 2002 to 2003. Almost half of the investment firms that are banks showed a decline in investment service revenues from 2002 to 2003.

The principal revenue components for investment firms which are *not* banks refer to broking of equity capital and debt instruments, stock issuance and counselling activity, and active management of portfolios on behalf of insurance companies, pension funds and private firms. Non-bank investment firms reported aggregate operating revenues of NOK 3.9 billion in 2003 (see Chart 2.22), an increase of NOK 576 million (17 per cent) from 2002. Assets under active management rose from NOK 473 billion to NOK 639 billion in 2003. About one-third of investment firms saw operating revenues decline in 2003. Overall operating profit for non-bank investment firms came to NOK 1.0 billion in 2003, an increase of 697 million compared with 2002. The improvement was achieved both through higher revenues and cost reductions. Investment firms' total workforce fell by 9 per cent from 2002 to 2003.

Chart 2.21: Operating revenues of investment firms which are banks (NOK million)

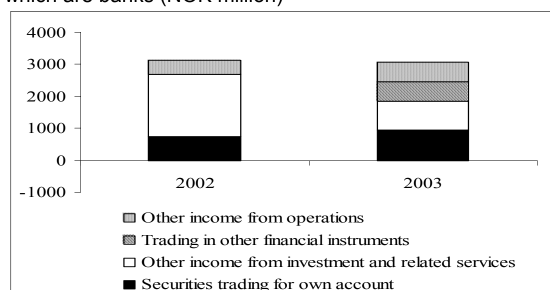
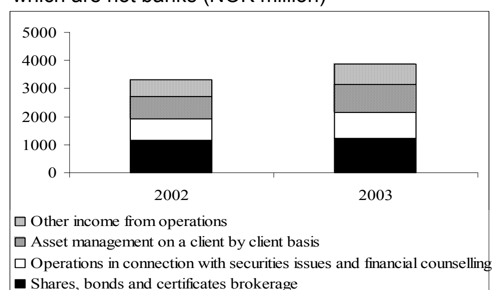


Chart 2.22: Operating revenues of investment firms which are not banks (NOK million)



Contagion effects in financial conglomerates

Risk diversification and economies of scale, especially in the distribution of financial products, have led to the emergence of large financial groups offering a broad range of services (see Table 2.1). Mixed financial groups are at risk should several business areas experience a negative trend at the same time. Falling securities markets rapidly affect insurance companies' results through reduced financial revenues and a weaker trend among investment firms, as in 2001 and 2002. Sluggish economic conditions oblige banks to record somewhat heavier losses, thereby impairing results, as was notably the case in 2002. In 2003 the equity market recovery and a more auspicious economic climate improved performances in all areas of operation.

The risk of financial spillover effects within a conglomerate increases with the conglomerate's complexity. The Financial Institutions Act contains provisions on the organisation of financial groups that are designed to reduce the likelihood of financial problems in a group company spilling over into the group as a whole. These provisions set requirements for group structure, intra-group transactions and group contributions. Intra-group risk will also be curbed by the capital adequacy rules which require capital standards to be met by individual group companies, as well as at subgroup and groupwide level, inter alia to prevent financial groups from utilising their capital several times over.

While the rules significantly help to prevent financial problems within a group company from giving rise to problems elsewhere in the group, less direct effects may also be of significance. Problems within a group company may give rise to negative rumours affecting the entire group. Banks, which are dependent on the money market or customer deposits for their funding, may be vulnerable to such mechanisms.

3. Risk areas

Against the background of the macroeconomic developments outlined in Chapter 1, Chapter 2 describes the trend in financial institutions' profitability and financial strength in 2003. The present chapter takes a closer look at the various types of risks facing financial institutions, with the emphasis on developments ahead. For banks and other credit institutions credit risk is of greatest significance, although liquidity risk and operational risk are also important. Operational risk is also important for investment firms. While Norwegian banks are little exposed to market risk, this type of risk in combination with insurance risk is of greatest significance for insurance companies. Chapter 4 gives a closer assessment of life insurance companies.

Credit risk

Credit risk denotes the risk that banks or other credit institutions will not receive payment as agreed, and/or that they will incur loss as a result of a counterparty's inability to honour its commitments. Credit risk is the most significant risk facing Norwegian banks and other credit institutions. Credit risk includes both the likelihood of a counterparty being unable to honour its obligations and the loss it incurs in that event, account being taken of the value of any security held by the bank.

While changes in credit growth and credit composition affect credit institutions' exposure to credit risk, changes in the financial position of households and corporate customers show how vulnerable customers are to changes in the economy and markets. Where lending to households is concerned, mortgage loans and other loans, including consumer loans, are assessed. The quality of banks' credit practice along with their internal management and control systems are decisive for the extent of credit risk. Results from surveys of banks' practice as regards mortgage loans, loans backed by securities, assessments of risk vis-à-vis particular industries and experience gained from supervisory activity on the credit risk side, are given in this chapter. A close look is taken at defaults and losses in 2003. The quality and level of risk-weighted assets in banks and other credit institutions is crucial to their ability to absorb loan losses. The stage is set for considerable changes in the international rules governing national authorities' capital requirements to cover credit risk and operational risk, and a brief account is given of these changes.

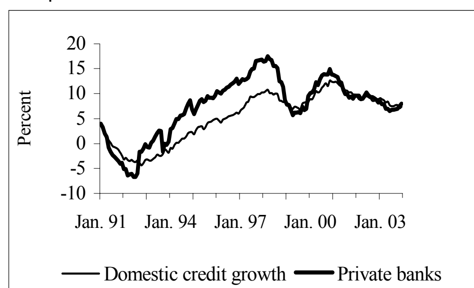
Credit growth

Although growth in credit to the non-financial private sector (households, enterprises and municipal administrations) from domestic sources has fallen since the end of 2000, it was nonetheless at 7.4 per

cent on a year-on-year basis in December 2003. This sector's foreign indebtedness has also fallen in the same period. Growth in total credit to the non-financial private sector stood at 5.4 per cent in November 2003, disregarding oil and shipping. Total credit growth remains appreciably above the economy's nominal growth rate.

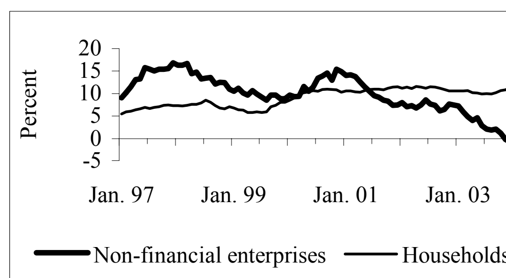
Recent years' growth in credit to households and enterprises reflects the macroeconomic developments described in Chapter 1. Whereas growth in domestic credit to enterprises fell from almost 15 per cent at the end of 2000 to minus 0.8 per cent in December 2003, growth in credit to households remained at a very high level throughout this period. In December the year-on-year rate of growth was 11.3 per cent after an upward trend in the latter half of 2003 which was partly due to the surge in the housing market in this period.

Chart 3.1: Growth in domestic credit and in credit from private banks



Source: Norges Bank

Chart 3.2: Growth in credit to households and non-financial enterprises



Source: Norges Bank

Banks account for about two-thirds of total domestic credit growth. Strong growth in lending to households over a long period has resulted in a higher share of loans to the retail market than to the business sector. Whereas bank lending growth was 8 per cent (adjusted for exchange-rate changes), growth in credit from mortgage companies was 15 per cent at the end of 2003. Finance companies' credit growth edged down to about 7 per cent by the end of 2003. Of total lending to households from credit institutions (banks, mortgage companies and finance companies), loans secured on dwellings (mortgages) account for 77 per cent. Alongside wage earners, the household sector includes the self-employed and sole proprietors. Lending to wage earners accounts for about 90 per cent of loans to the household sector. Growth in wage earners' mortgages quickened throughout the year to reach 16 per cent by end-2003, and was considerably higher in 2003 than in previous years. Chart 3.3 shows the growth in wage earners' borrowings from all credit institutions, and Chart 3.4 from banks alone.

Chart 3.3: Credit institutions' lending to wage earners

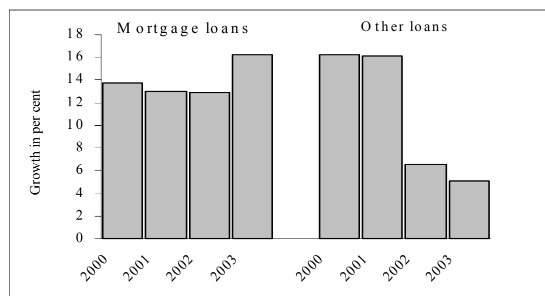
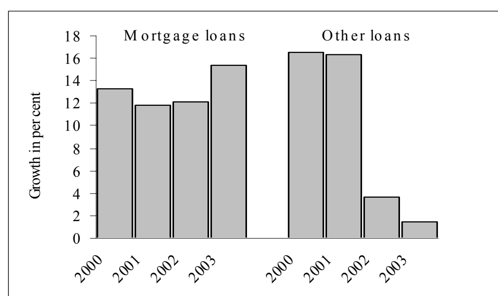


Chart 3.4: Banks' lending to wage earners



Other lending to wage earners from credit institutions came to about NOK 115 billion at year-end. Growth in these loans, which include credit card loans and unsecured loans, has slowed over the past two years. (See below for consumer loans granted by finance companies). Finance companies pushed up growth in other loans from credit institutions last year. Mortgage companies did the same in regard to home mortgage loans.

Although growth in bank lending was clearly lower in 2003, it remains at a relatively high – in some cases very high – level. Strong lending growth puts a heavier premium on profitability in order to maintain financial positions, as well as on banks' risk management and control systems. Whereas 38 small banks reported lending growth in excess of 15 per cent in 2002, 27 banks did so in 2003. In 2003 only one of these banks reported core capital adequacy below 10 per cent.

The banks have expanded their operations in the household sector in recent years. In December 2003 just over 40 banks showed year-on-year lending growth above 15 per cent to this sector (see Chart 3.5). These banks accounted for close to 50 per cent of total lending to households (Chart 3.6). Growth in lending to enterprises was at a lower level in 2003. While as many as 27 banks reported growth in excess of 15 per cent, they accounted for a mere 3.8 per cent of total lending.

Chart 3.5: Banks distributed by lending growth

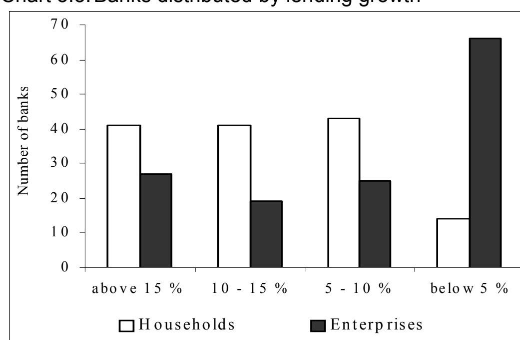
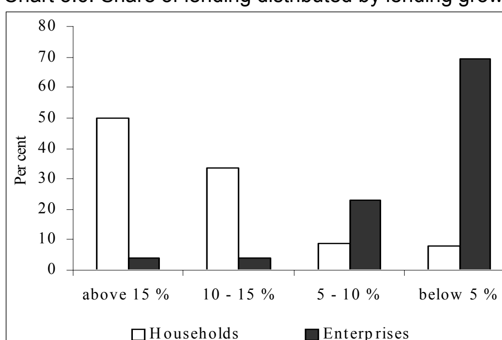


Chart 3.6: Share of lending distributed by lending growth



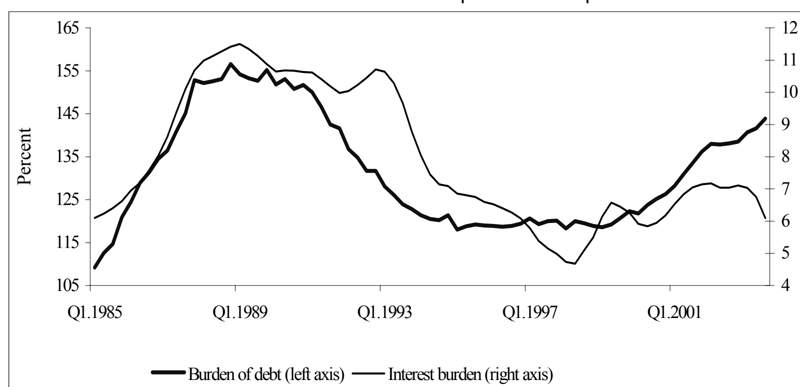
The three largest banks accounted for much of the banking sector's total lending to households and enterprises. The largest banks reported considerable growth in lending to the household sector in 2003, while growth in lending to enterprises was very modest. Growth in the three largest banks' loans to households rose from 10 per cent at the end of 2002 to more than 15 per cent at end-2003.

Households

Rapid incomes growth and surging house prices explain the sharp growth in lending to households from the mid-1990s onwards. Household borrowings remain at a high level. Year-on-year growth in credit to households has risen in recent months to reach as much as 11.3 per cent in December 2003. Over the past five years, households' gross indebtedness has risen markedly, by a far greater margin than incomes, bringing a sharp increase in the debt burden. At the end of the third quarter of 2003 households' total debt came to just over 140 per cent of disposable income, a rise of close to 20 percentage points over the past five years. There are, however, wide differences between households.

Sharply falling interest rates have reduced interest outlays despite strong growth in indebtedness. The interest burden was reduced by 1 percentage point from the fourth quarter of 2002 to the third quarter of 2003. The interest rate reduction has resulted in a substantial redistribution of incomes from households in a net asset position to households in a net debt position. Concurrently lower interest rates are pushing in the direction of lower saving.

Chart 3.7: Household debt and interest burden as a per cent of disposable income

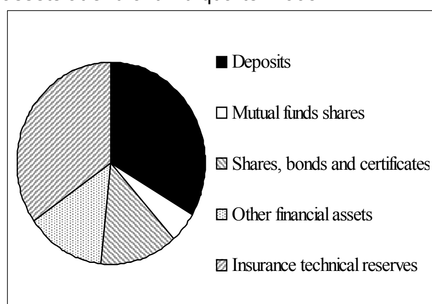


Sources: Statistics Norway and Norges Bank

Households' financial saving

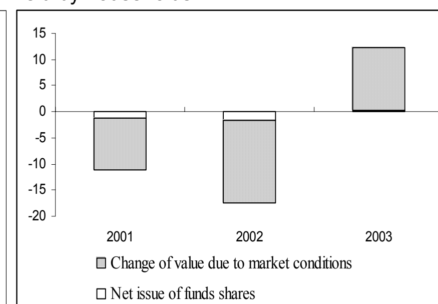
Norwegian households are traditionally modest investors in securities – stocks, bonds and mutual fund units – compared with households in other countries. Whereas Swedish households have invested 32 per cent of their financial wealth in securities, the figure for Norway is 18 per cent. The share held as bank deposits has fallen substantially in recent years, at the same time as the share held as securities has risen noticeably. This development slowed considerably in the period due to the weak equity market trend between the autumn of 2000 and the start of 2003 combined with relatively high deposit rates.

Chart 3.8: Composition of household financial assets at end of third quarter 2003



Source: Norges Bank

Chart 3.9: Change in equity fund assets held by households



Source: Norwegian Mutual Fund Association

Later in 2003 the bank-deposit share dropped back while the share held as securities rose. At the end of the third quarter of 2003, 4.9 per cent of Norwegian households' financial assets were invested in mutual fund units, while 11.5 per cent were invested in equity and primary capital certificates.

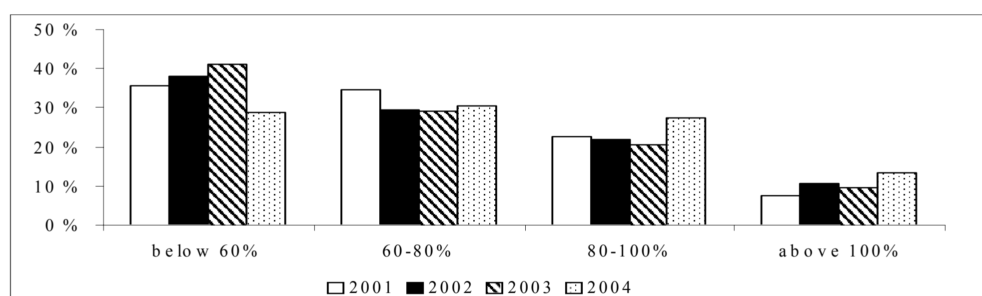
According to figures from the Norwegian Mutual Fund Association, assets under management in Norwegian-registered securities funds rose by NOK 39.3 billion to NOK 146.5 billion in 2003. Net subscriptions accounted for NOK 17.9 billion of this increase. Almost half of the managed capital was invested in equity funds while about one-third was invested in money market funds at the end of 2003. Households owned about one-half of the Norwegian-registered equity funds.

Net subscriptions in Norwegian-registered equity funds by households in 2003 came to a mere NOK 0.2 billion (see Chart 3.9), while value change explains NOK 12.1 billion (98 per cent) of the increase. Household investment in equity funds appears to be little affected by the positive trend in equity markets in 2003.

Home mortgages

The bulk of bank loans to the retail market are mortgage loans secured on dwellings. Growth in mortgage lending rose sharply in the second half of 2003 to reach close to 15 per cent (year-on-year) by year-end. In January 2004 Kredittilsynet conducted a sample survey of banks' lending practice as regards mortgage loans. Corresponding surveys have been conducted on an annual basis since 1994. This year's survey showed that the share of loans with a loan-to-value ratio in excess of 80 per cent was markedly higher than in recent years. In the case of 41 per cent of the reported portfolio loans exceeded 80 per cent of property valuation. The same survey in the spring of 2003 reported a figure of 30 per cent. Loans in excess of 100 per cent of valuation also showed an increase, from 10 to 14 per cent. One explanation for the higher share of loans with a high loan-to-value ratio is that this year's portfolio contained more loans going to house purchases or housebuilding than in 2003, which featured a high share of refinancing. For these loans, the share with a loan-to-value ratio in excess of 80 per cent was 65 per cent, of which 27 per cent entailed financing in excess of valuation. A very low portion of the home mortgages in question carried fixed interest.

Chart 3.10: Share of home mortgage loans in various loan-to-value categories, 2001-2004



Consumer loans

A substantial share of loans for consumption purposes is likely to be secured on dwellings, although both banks and mortgage institutions also offer pure consumer loans. These loans are usually unsecured and entail high credit risk. A survey was conducted in 2003 of a sample of nine companies whose main business is consumer finance. The survey figures also include Cresco, a business entity in

the Gjensidige NOR Group. In this context consumer loans include both credit card loans and unsecured consumer loans.

As Table 3.1 shows, lending by many of these companies has risen rapidly in recent years, although total lending growth has edged down. A possible explanation is that alternative consumer finance has become cheaper. Book losses and loan defaults among this sample are higher than for finance companies in general. Net loan defaults measured 7.3 per cent of consumer loans at end-2003, a slight increase on the previous year. However, there are wide variations between the companies in question. As a group, they report high net interest revenues overall compared with other companies in the same segment. Hence the higher credit risk is met by being priced into margins. These companies' profit on ordinary trading is also significantly higher than that of other companies.

Table 3.1: Trend in consumer loans in a selection of companies*

	2001	2002	2003
Consumer loans (NOKm)	16 755	19 381	20 690
Growth (12-month)	27	16	7
Book losses (NOKm)	277	511	574
Losses as % of consumer loans	1.7	2.6	2.8
Net interest as % of consumer loans	8.2	8.4	10.3
Ordinary operating profit as % of average total assets	4.2	4.0	5.1
Loan defaults, net (NOKm)	1 013	1 338	1 510
Defaults as % of consumer loans	6.0	6.9	7.3

*GE Capital Bank, DnB Kort, Enter Card, Ellos Finans, Ikano Finans, Citifinancial Europe, Europay Norway, Diners Club Norge, Bankia Bank and Cresco

The sample contains eight finance companies, accounting for 43 per cent of finance company lending to wage earners and almost 16 per cent of finance companies' total lending at the end of 2003.

Households' sensitivity to interest rate increases

In response to a request from Kredittilsynet, Statistics Norway has made model-based projections of households' debt and interest burden up to the end of 2005. Households' interest burden in the event that interest rates return to their 2001 level at end-2005/start-2006 was also analysed.

The model starts out from volume figures for 2001 taken from the tax returns. The assumptions underlying the projections are based on historical data up to and including 2002 while the forecasts for wage growth and bank lending rates are taken from Statistics Norway's *Economic Survey 3/2003* (September 2003). Data on households' total debt and interest expenses in 2001 are used to estimate the average lending rate of 7.5 per cent. Statistics Norway's bank lending rate projections are used to calculate the average borrowing rate for households in 2004 and 2005 (3.4 per cent and 4.5 per cent respectively). Households' debt growth is put at 14 per cent in 2004 and 12 per cent in 2005. The estimate for 2004 may seem on the high side, but is intended to capture the fact that growth in credit to wage earners at end-2003 was substantially higher than for the remainder of the household sector (as previously explained). The tax programme in the model comprises current 2004 rules, which, as a

purely technical assumption, are continued for 2005, such that the thresholds in 2004 are wage-adjusted for 2005.

Under the assumptions outlined, the calculations show that households' total debt burden, which in 2001 measured about 143 per cent of total incomes, are set to rise to 180 per cent at the end of 2005. Total debt is estimated at NOK 1,352 billion.

Households are in a relatively favourable financial position overall. However, some groups are substantially more vulnerable to interest-rate increases than others. Households are therefore classified in three main groups on the basis of interest-rate burden (defined as interest rate expenses divided by after-tax income): interest burden up to 20 per cent, from 20 to 30 per cent and over 30 per cent. Based on the distribution of debt and wealth in 2001, a projection is made of the number of households falling within each of the three groups in 2005, as well as the groups' share of total debt, given the assumptions outlined.

Table 3.2: Number of households and share of total debt by interest burden

	2001		2005		2005, interest rate at 2001 level	
Interest burden:	Number (thousands)	Percentage of total debt	Number (thousands)	Percentage of total debt	Number (thousands)	Percentage of total debt
0.1 – 19.9 %	1 304	59	1 421	74	1 132	43
20 – 30 %	188	24	108	16	257	27
Over 30 %	85	16	41	9	182	29

Source: Statistics Norway

As a result of the interest rate fall from 2001 to 2005, the number of households with an interest burden above 30 per cent is halved in the period. The share of total debt held by the group with the highest interest burden is also sharply reduced. The calculations demonstrate that households' credit risk in the short term has receded in keeping with the interest rate fall.

On the other hand, should it prove necessary to rapidly raise interest rates, the effect on the most vulnerable groups will be substantial. The calculations assume that interest rates at the end of 2005 will be back at the 2001 level, i.e. 7.5 per cent. According to the calculations more than 180,000 households will in that event face an interest rate burden in excess of 30 per cent. The total number of households with an interest burden in excess of 20 per cent is almost 440,000, and these households account for more than one half of total indebtedness. This is an increase of close to 170,000 persons compared with 2001, and an increase of 16 percentage points in the share of total indebtedness.

A buffer in the form of liquid assets puts households in a far better position to tackle the debt and interest burden. In 2001 the group with the lowest interest burden held 59 per cent of the total debt, while financial wealth made up 70 per cent of this group's debt. The group with an interest burden in excess of 30 per cent had relatively sizable assets in relation to their debt, mainly in the form of equities. This pattern is reinforced in 2005. The group with the highest interest burden is reduced by more than half, and the remainder of the group have a large holding of equities. Households with an interest burden between 20 and 30 per cent have the lowest wealth share in relation to debt. Should

interest rates return to the 2001 level, the wealth pattern will change radically due to sizable shifts between the various interest burden groups. In the case of the 440,000 households which in this case have an interest burden in excess of 20 per cent, their overall wealth will measure about 14 per cent of total indebtedness.

Table 3.3: Household financial wealth and financial wealth as a share of debt by interest burden

	2001		2005	2005, interest rate at 2001 level
Interest burden:	Financial wealth in NOKbn	Financial wealth in % of debt	Financial wealth in % of debt	Financial wealth in % of debt
0.1 – 19.9 %	376	70	48	75
20 – 30 %	26	12	9	13
Over 30 %	34	23	29	15

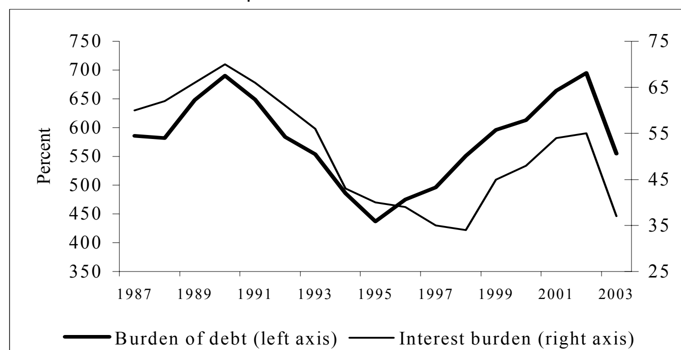
Source: Statistics Norway

The sensitivity calculation shows that in the event of a sudden interest-rate hike, households' vulnerability will rise substantially from today's low level. While a sudden return of interest rates to the 2001 level is not the most likely scenario, a gradual return to this level in 2005/2006 cannot be ruled out. If interest rates remain low for a long period and households' rapid credit growth persists or continues to increase, the stage may be set for a substantial increase in households' credit risk in the medium term. Figures from Statistics Norway's incomes and wealth survey show that recent years' debt growth has been highest in groups with few assets and an uncertain labour market status. The last banking crisis showed that banks' losses consumers accounted for about 20 per cent of their total losses.

Corporate sector

Sluggish production growth has contributed to declining investments in mainland (non-oil) enterprises, and gross investment has been on a falling trend for almost three years. Statistics Norway expects a turnaround in the Norwegian economy combined with low interest rates to kindle a weak upturn in investment in 2004. Declining credit growth and low interest rates have brought reductions in enterprises' debt and interest burden. Norges Bank estimates that the debt and interest burden has fallen by 20 and 33 per cent respectively from 2002 to 2003.

Chart 3.11: Mainland enterprises' debt and interest burden



Sources: Norges Bank and Statistics Norway

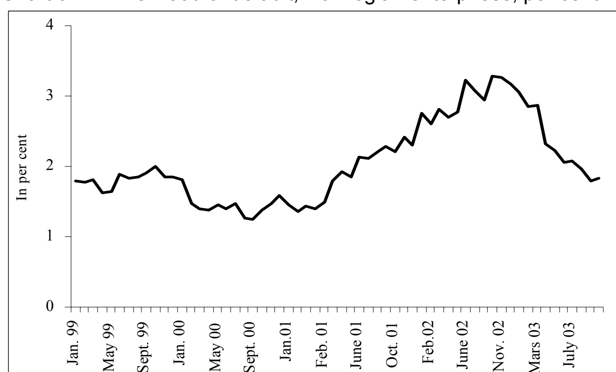
Preliminary accounts for 2002, excluding the oil and gas industry, show an improvement in profitability from 2001 to 2002[1]. All in all, capital ratios rose slightly in the period but remained lower than in 2000.

A record level of dividends dampened the increase, possibly because owners fear reintroduction of dividend taxes. Profit trends varied widely from industry to industry from 2001 to 2002. Manufacturing and retail trade showed a positive profit trend in the period whereas property management showed a slight decline in profitability and capital ratios. Low salmon prices contributed to weak profit performances in the fish farming industry in 2002, as reflected in banks' loan losses. Declining profitability also marked the shipbuilding industry. However, the fish farming and the shipbuilding industries combined saw only a moderate decline in capital ratios.

The number of bankruptcy proceedings was more or less stable in the period 1995 to 2001. From 2002 to 2003, however, the number of bankruptcies rose by almost 17 per cent. A marked increase in the first quarter of 2003 was followed by a decline in the second half-year. An international economic upturn, a weaker krone and low interest rates has brightened the outlook for Norwegian enterprises somewhat. The depreciation of the krone exchange rate has also made a positive contribution. Projections using KMV's and Norges Bank's credit risk models also point in the direction of a more favourable trend in the enterprise sector.

KMV's Private Firm Model calculates the likelihood of default for the 4,000-5,000 largest Norwegian companies, which together account for the bulk of the corporate sector's debt. The KMV model utilises market information, and can therefore be said to be more forward-looking than models based on historical, accounting data.

Chart 3.12: Likelihood of default, Norwegian enterprises, per cent



Source: Moody's KMV

[1] Preliminary figures; about 10 per cent of the accounts have not been filed. Experience shows that the remaining companies deliver poorer results than the reporting companies.

Based on data up to December 2003, the likelihood of default has been calculated for Norwegian enterprises, as shown in Chart 3.12. The model shows a sharp increase in average (median) likelihood of default in 2001 and 2002, followed in 2003 by a return to the level in effect in the autumn of 2001.

In 2003 Kredittilsynet, as part of its supervisory effort, also carried out analyses of large and midsized banks' corporate portfolios. The analyses are based on Norges Bank's credit risk model which indicates individual bankruptcy probabilities based on age, size, industry characteristics and accounting variables that shed light on the individual enterprise's revenues, liquidity and financial strength. The model predicts the likelihood of an enterprise going bankrupt within three years of the point in time the analysis was made. The analyses, based on data up to and including 2002, show that the 2002 risk profile had deteriorated or was unchanged from 2001. Banks appear to have used the interest rate fall in 2003 to improve risk pricing on their loans, although Kredittilsynet considers that the banks as a whole have not achieved sufficient differentiation in their risk pricing.

Exposure to selected industries

Each year since 1998 Kredittilsynet has investigated banks' exposure to selected industries. The 2003 survey covered shipping, the engineering industry, offshore industry, extraction of oil and gas, fish farming and property management. The 12 largest banks are included, and the analysis is based on the banks' own risk assessments and classifications. The offshore industry and shipbuilding industry had a lower share of commitments classified as high-risk in the third quarter of 2003 compared with the same period of 2002, while there was an increase in the other industries.

Table 3.4: Banks' exposure to selected industries as of the third quarter of 2003

Industry	Loan commitments		Amount drawn	High risk as per cent of amount drawn	
	NOK billion	Annual growth per cent	NOK billion	30.09.02	30.09.03
Shipping	105.0	1.7	79.9	5.3	8.7
Shipbuilding	6.8	-46.5	4.1	14.5	13.4
Offshore	16.5	19.4	9.4	12.4	4.9
Oil/gas extraction	20.6	-34.6	8.8	3.2	4.3
Fish farming and hatcheries	17.7	17.9	15.8	38.6	44.5
Property management	136.3	7.4	120.0	6.2	7.9

The banks' highest exposure was to property management and shipping. A weaker trend in the real estate sector with idle capacity in the office market and a continued fall in rental prices have led to an increase in the share of high-risk commitments. In the shipping industry the share of high-risk commitments has risen whereas the share of high risk associated with dry cargo, which has seen good market conditions, has fallen. The fall in the volume of lending commitments in the shipbuilding industry probably reflects lower activity in the industry, which is also affected by a lower volume of incoming orders. A large share of loans to this industry is tied to project financing, and the slight decline in the share of high-risk commitments may be due to project completions. However, credit risk associated with banks' loans to finance investments and working capital facilities in the shipbuilding industry may rise ahead.

Lending commitments to fish farming and hatchery enterprises have increased, and the share of high-risk commitments is very high and rising. The fish farming industry is affected by lower prices. Exchange rate movements may underlie Norwegian fish farmers' impaired competitiveness. Moreover, some companies are having difficulties with high capital costs since their licences were purchased at very high prices. Any new punitive duties imposed by the EU on salmon imports will be highly detrimental to an industry already facing major problems.

Table 3.5 shows aggregate drawn commitments for the defined industries for the entire sample of banks. In order to illustrate the significance of the trend in each industry on banks' financial strength, exposure is viewed in relation to the banks' overall own funds. The table also shows what portion of the exposure is concentrated in the three largest banks. These banks' market share of total loans from Norwegian banks was about 56 per cent. Should default likelihoods within the shipping and property management industries increase markedly, triggering losses, the impact on banks' capital adequacy position may be substantial. In order for losses in other industries to have corresponding consequences, larger changes in default likelihood would be required.

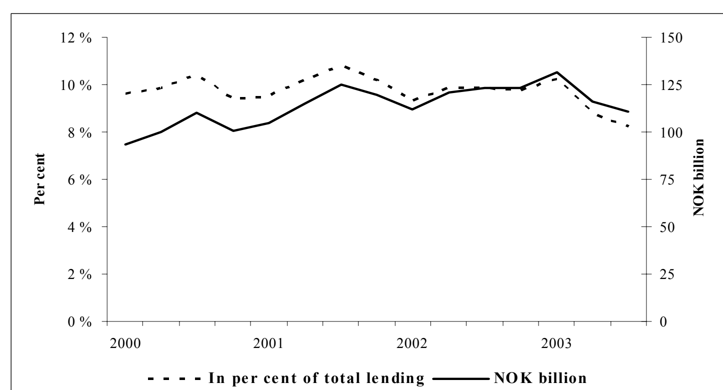
Table 3.5: Banks' loan commitments and exposure as a share of risk-weighted assets in selected industries

Industry	Loan commitments NOK billion	Exposure. Per cent of risk-weighted assets	Three largest banks' share of exposure
Shipping	80	85	86
Shipbuilding	4	4	65
Offshore	9	10	96
Oil/gas extraction	9	9	88
Fish farming and hatcheries	16	17	76
Property management	120	127	72

Trend in the size of large exposures in banks in Norway

Each quarter Kredittilsynet compiles an overview of banks' large exposures. A large commitment is defined as a commitment representing more than 10 per cent of a bank's net own funds. The rules set limits to the size of individual exposures, and to the total volume of large exposures that a bank is permitted to have on its books.

Chart 3.13: Trend in large exposures



From 2000 up to and including the first quarter of 2003, the banks' total volume of large exposures (after weighting) came to about 10 per cent of total lending. Since the first quarter of 2003 of this volume has been reduced to close to 8 per cent of total lending. The volume of large exposures has risen fairly modestly in recent years. This is explained by the fact that the banks are relatively large, and by lower demand for credit from the business sector. Increased competition from foreign lenders and the securities market may also be contributory factors.

Loans backed by securities

Banks can provide loans to households and businesses to finance the purchase of securities where the securities themselves constitute the collateral. An additional risk associated with such loans is that the value of the underlying securities will be exposed to market fluctuations. In light of the growth in such loans in other countries, Kredittilsynet has since 1997 conducted annual surveys of loans backed by securities and banks' treatment of such loans. Twenty-four banks and investment firms participated in the 2003 survey. Securities purchases can be secured by other means, or not secured at all – which is not captured by this survey.

The level of loans backed by securities is relatively low in Norway. It rose at the end of the 1990s but subsided in 2001. A marked decline in this type of loan in 2002 was followed by a weak rise in 2003 on the back of rising equity market values. Such loans' share of overall lending stood at 2.5 per cent both in 2002 and 2003. The banks in the sample have also shown a clear shift over the past couple of years from commercial credits to other loans, thereby increasing the maturity of their exposures of this type. Changes in households' savings pattern and changes in banks' willingness to finance short-term business of this type may be a contributory factor.

Table 3.6: Credits granted, mainly secured on financial instruments, as of 30 Sept. 2003 and 30 Sept. 2002

	Commercial credits *			Other loans secured on fin.instr.			Total loans secured on fin.instr.		
	NOK bn	As % of gross loans		NOK bn	As % of gross loans		NOK bn	As % of gross loans	
	30.09.2003	30.09.2003	30.09.2002	30.09.2003	30.09.2003	30.09.2002	30.09.2003	30.09.2003	30.09.2002
5 most exposed banks	0.6	0.9	1.7	4.8	7.4	5.6	5.4	8.3	7.3
3 largest banks	2.2	0.3	0.6	13.8	2.0	1.5	16.0	2.3	2.1
Total	4.0	0.4	0.6	22.5	2.1	1.9	26.5	2.5	2.5

*Commercial credits are defined as loans of up to 1 year's maturity

Although aggregate exposure is limited, some banks in the sample are substantially exposed to this type of commitment. Such exposure requires sound control and monitoring routines. 2002 saw an increase in the scale of payments problems and losses compared with previous year. In 2003 the volume of commitments posing payment problems and losses decreased in keeping with the equity market recovery, although some heavily exposed banks are still grappling with problem commitments.

Bank losses

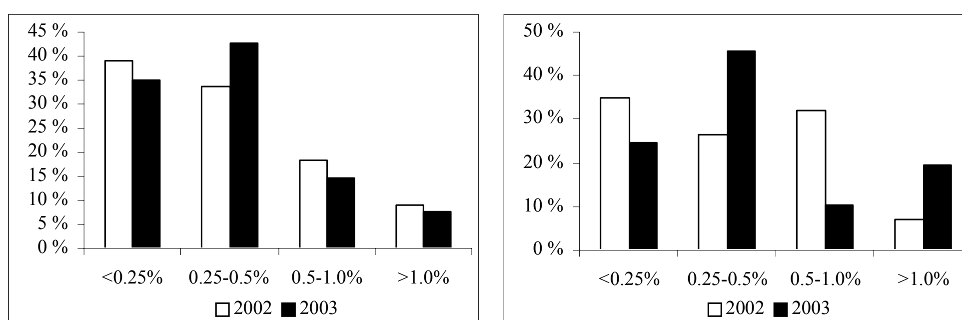
All in all the banks had relatively high loan losses in the first half of 2003, with losses essentially referring to exposures in the fish farming and fisheries sector. Thanks to a more favourable trend in the second half-year, overall loan losses in 2003 were lower than in the previous year. Loss figures in 2002 were heavily affected by heavy losses incurred by several midsized banks in the fourth quarter on loans

to the Finance Credit system. Disregarding the losses on Finance Credit, which made up about one-fifth of overall losses in 2002, the 2003 figures would have been 10 per cent higher than the previous year.

Charts 3.14 and 3.15 distribute banks in loan loss intervals in relation to gross lending, in terms of share of the total number of banks and in terms of share of aggregate total assets. The number of banks with losses exceeding 1 per cent of loans fell from 13 in 2002 to 11 in 2003. Assets referring to banks with losses exceeding 1 per cent are, however, higher in 2003 than in 2002, mainly because of the increase in losses posted by Nordea Bank Norway.

Chart 3.14: Share of banks distributed by loan losses

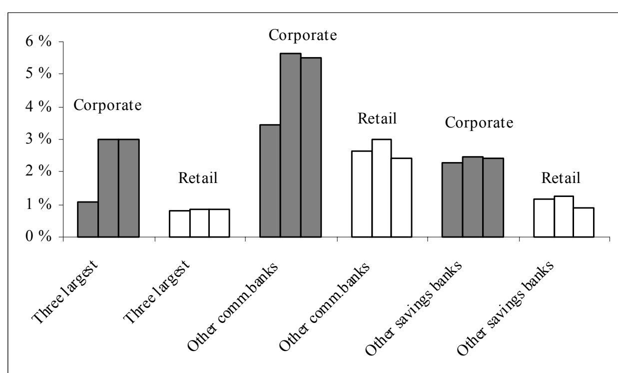
Chart 3.15: Share of total assets distributed by loan losses



A large number of small and midsized banks sharply expanded their loans to the corporate sector in the second half of the 1990s. The banks with heaviest loan losses in 2002 generally showed stronger growth in lending to the corporate sector in the period 1996–2000 than the banking sector overall. The same banks reported lower loan losses in 2003, albeit still higher than the average.

The volume of defaults was low for several years, but rose in 2002 to its highest level since 1996. The increase referred mainly to corporate sector commitments, and was strongest among the largest banks and other commercial banks. Defaulted corporate sector commitments were still at a fairly high level for these groups of banks in 2003. Defaulted retail (consumer) loans have remained low throughout, with a slight decrease in 2003 for all groups of banks.

Chart 3.16: Gross defaults as per cent of gross lending to corporate and retail market, 2001, 2002 and 2003



Basel II and possible consequences for Norwegian banks

Banks' ability to withstand losses is key to assuring financial stability. The capital adequacy rules impose minimum capital requirements on banks in respect of the risk they assume. The current rules impose capital requirements in respect of both credit risk and market risk.

The Basel Committee on Banking Supervision has worked since 1998 on revising the capital adequacy rules. The Basel Committee's new guidelines are expected to be adopted in the first half of 2004. Both the Basel Committee and the European Commission are planning for the new capital adequacy rules to become effective at the end of 2006. The Directives will be implemented in Norwegian law as part of Norway's obligations under the EEA agreement. The new regime will make the capital requirement in respect of credit risk more risk-sensitive. An explicit capital requirement is also proposed for operational risk. Where credit risk is concerned institutions can calculate capital requirements in accordance with two alternative approaches: the Standardised Approach and the Internal Ratings-Based Approach. The Standardised Approach builds largely on existing rules. The Internal Ratings-Based Approach is based on institutions' own assessment of credit risk, and distinguishes between a basic and an advanced method. The capital requirement for operational risk also distinguishes between simple and more sophisticated methods.

The Basel Committee has conducted quantitative impact studies to gauge the effect of the new proposal on capital requirements. A total of 365 banks from 43 countries participated in the latest study, Quantitative Impact Study 3 (QIS 3), including, from Norway, Den norske Bank, Nordea Bank Norway, Union Bank of Norway and Fokus Bank. The results for EU member states are shown in Charts 3.17 and 3.18. The Basel Committee is currently contemplating calibration changes which may have repercussions for the capital requirement.

Chart 3.17: Change in the capital requirement for EU banks excluding operational risk

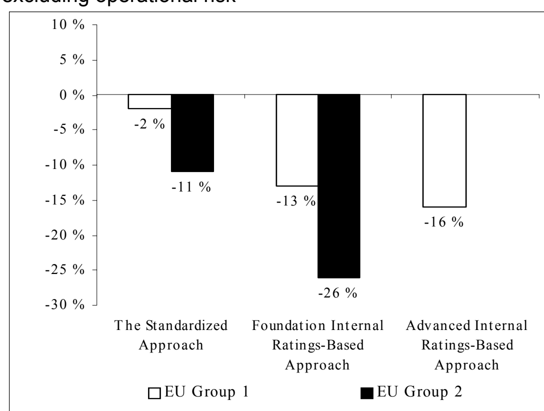
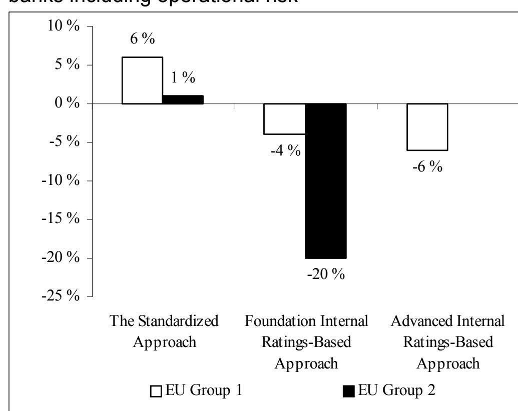


Chart 3.18: Change in the capital requirement for EU banks including operational risk



The charts show changes in the capital requirement resulting from the three methods of calculating credit risk with and without the capital requirement for operational risk. Group 1 banks are internationally active banks with core (Tier 1) capital in excess of €3 billion. Few Group 2 banks

delivered calculations based on the advanced Internal Ratings-Based Approach, and the Basel Committee opted not to publish these figures in the interest of confidentiality.

The difference between Group 1 and Group 2 banks largely reflects the importance of retail exposures for the latter group. Retail exposures will carry significantly lower weights relative to risk under the new Accord. The Norwegian banks participating in QIS 3 are in this respect comparable with Group 2 banks in the EU. Hence Norwegian banks opting for the Internal Ratings-Based Approach will see a significant relaxation of the capital requirement.

In conjunction with the Norwegian Financial Services Association, the Savings Banks Association and Norges Bank, Kredittilsynet has carried out its own calculations for a selection of 21 small and midsized commercial and savings banks. These banks did not participate in QIS 3, and the standardised approach is employed for credit risk and the simplest approach for operational risk.

The Norwegian banks that participated in QIS 3 and the 21 banks in the national study account for 84 per cent of aggregate total assets in the Norwegian banking sector. When the results from both studies are combined, the calculations show a (weighted average) reduction of 32 per cent in the capital requirement for credit risk. Operational risk contributes a 7 per cent increase, producing an overall 25 per cent reduction in the capital requirement for participating banks. In monetary terms this entails a weakening in the region of NOK 20 billion. At the end of 2003, Norwegian banks' risk-weighted assets totalled about NOK 129.5 billion. The relatively large impact of the new regime reflects a high proportion of home mortgage loans and other loans to the retail market.

Although the calculations show sizeable reductions in the capital requirement, this is not to say that institutions will gear down to the new minimum standard. The proposal envisages that institutions should maintain own funds above the minimum requirement since the minimum requirement does not cover all risks present in the institutions' portfolios. The banks are nonetheless likely to adjust to the new requirements by maintaining a lower proportion of risk-weighted assets than at present.

One of the consequences of adopting a more risk-sensitive capital standard is that the requirements will vary over the economic cycle to a greater extent than under existing rules. The requirement will be reduced in economic upturns when risk is viewed as relatively low, and increased in downturns when risk is perceived to be rising. This could augment banks' lending growth in periods of economic expansion and reinforce tightening in periods of a contraction. Hence the new capital adequacy rules may serve to intensify cyclical oscillations – a phenomenon known as procyclicality. Procyclicality is by no means a new phenomenon: it can also be caused by existing rules for capital adequacy and loss provisioning. Loss provisions will have a procyclical effect where provisioning ratios are reduced in a cyclical upturn and, conversely, when provisioning ratios are increased in a cyclical downturn.

The combination of lower capital requirements and procyclicality may increase the risk of financial instability. It is therefore important for banks to build capital buffers to withstand unforeseen losses during economic slowdowns. Improved risk management in the individual bank and closer supervision will also be key to identifying and monitoring the risks to which banks expose themselves.

Market risk

Market risk is the risk of loss of revenue or capital as a result of changes in the market prices of equities, fixed income securities, currencies and commodities. The scale of market risk will depend on both the volatility of market prices and the size of positions taken. Liquidity risk is the risk that an institution will be unable to honour its commitments as they fall due.

Banks

Banks' exposure to market risk is negligible since a minimal part of their total assets is invested in securities affected by market volatility. At the end of 2003 about 9 per cent of the total assets of the three largest banks and other commercial banks were invested in fixed-income securities held as current assets, whereas for other savings banks the figure was 5 per cent. The equity component of banks' balance sheets is minimal: 0.3 per cent of the largest banks' and other commercial banks' total balance sheets assets were invested in short-term equity while the equivalent figure for savings banks was 0.5 per cent. Banks report market risk in their trading portfolios in accordance with special provisions contained in the capital adequacy regulations. Chart 3.20 shows that Norwegian credit institutions carry significantly lower market risk (CAD) as a share of risk-weighted assets than credit institutions in other Nordic countries.

Chart 3.19: Money market instruments and bonds held as assets as a per cent of total assets

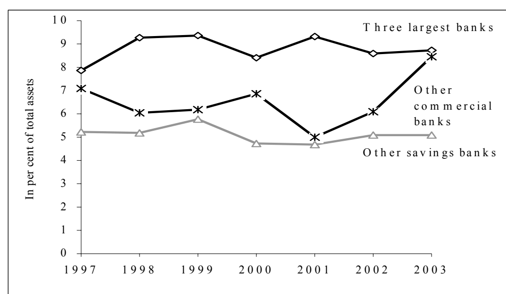
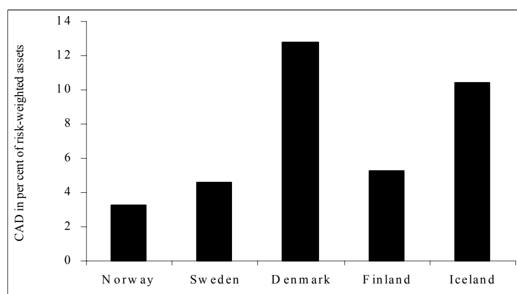


Chart 3.20: Market risk in relation risk-weighted, current assets 2002



Life insurance companies

Of Norwegian financial institutions, life insurance companies are those with highest exposure to market risk. In 2003 life insurance companies' equity component in relation to total assets rose by 5 percentage points to 12 per cent of total assets. Holdings of bonds classified as held to maturity continued to expand into 2003, and at year-end accounted for 36 per cent of the companies' total assets (i.e. NOK 166 billion). This is an increase of NOK 42 billion, or 6 percentage points from the end of 2002. Money market instruments and bonds held as current assets measured 29 per cent of total assets at end-2003 compared with 37 per cent one year earlier. This redistribution of the companies' assets entails a short-term reduction of market risk.

Chart 3.21: Life insurance companies' holdings of equities and fixed income securities

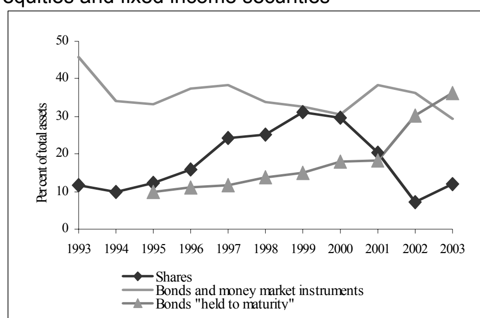
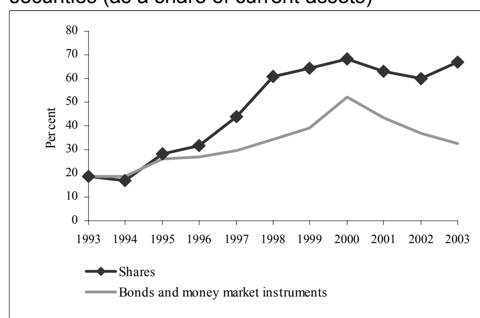


Chart 3.22: Life insurance companies' foreign securities (as a share of current assets)



Life insurers expanded their foreign equity holdings substantially from the mid-1990s onwards. Investments in foreign fixed-income securities also increased in the same period, albeit by a smaller margin than equities. Since the peak in 2000, however, the portion of investments in foreign equities and fixed-income securities has fallen. Where 2001 and 2002 are concerned this is probably due to the uncertain outlook for the world economy and to the high level of Norwegian interest rates. In 2003 life insurers' investments in foreign equity increased anew to reach 67 per cent at year-end. However, the portion of foreign bonds and money market instruments continued to subside, and was down to 33 per cent at the end of 2003 compared with 40 per cent one year previously.

Life insurance companies' buffer capital

Buffer capital expresses a company's risk-carrying capacity. At the end of 2003 life insurance companies' buffer capital amounted to NOK 25.3 billion or 5.5 per cent of their total assets. The equity market recovery has added a further NOK 11 billion since the end of 2002. The companies' risk-carrying capacity in terms of buffer capital remains weak, however. See Chapter 4 for details.

Both Kredittilsynet and the companies employ stress tests to assess life insurers' ability to withstand sudden, unfavourable market movements. Two stress tests, with a basis in the companies' buffer capital as at 31.12.2003, are illustrated below. They contain no information on the likelihood of the scenarios actually materialising.

Scenario 1 employs the following assumptions: a 20 per cent fall in the Oslo Børs All-Share Index; a 20 per cent fall in corresponding indices in international equity markets; no change in interest rates in Norwegian or international fixed income markets.
Scenario 2 employs the following assumptions: a 20 per cent fall in the Oslo Børs All-Share Index; a 20 per cent fall in corresponding indices in international equity markets; a 0.5 per cent rise in interest rates in Norwegian and international fixed income markets.

Table 3.7: Stress tests for life insurance companies as at 31.12.2003

31.12.2003	Buffer capital before stress test		Value fall in stress scenario, NOK million				Buffer capital after stress test	
			Equities		Bonds			
	NOKm	% of total assets	Norwegian	Foreign	Norwegian	Foreign	NOKm	% of total assets
Scenario 1	25 266	5.5	-3 558	-7 166	0	0	14 542	3.2
Scenario 2	25 266	5.5	-3 558	-7 166	-6 506	-2 746	5 291	1.2

The stress tests show that fixed income markets are of great significance for life insurance companies. The companies will emerge from these scenarios in an impaired position, with residual buffer capital of NOK 14.5 and 5.3 billion respectively. All life insurers have buffer capital sufficient to withstand scenario 1. In the case of scenario 2 one company will incur a loss on its securities portfolio in excess of its buffer capital at the end of 2003. The focus of these stress tests is on the short-term impacts of higher interest rates via price loss on holdings. In the longer term an increase in long rates will have a favourable effect on the companies' results. The stress tests do not take real estate into account.

Pension funds

Data have been obtained for a sample of the largest private and municipal pension funds for 2003. The sample covers about 80 per cent of pension funds' aggregate total assets, which increased by 19 per cent in 2003. The private pension funds in the sample raised their equity component in 2003 by 6 percentage points, and at year-end equity investments accounted for 24.5 per cent of their total assets. The municipal pension funds' equity component stood at just under 10 per cent at the end of 2002, rising to just over 12 per cent at the end of 2003.

Chart 3.23: Selected balance sheet items in a sample of private pension funds 2002-2003

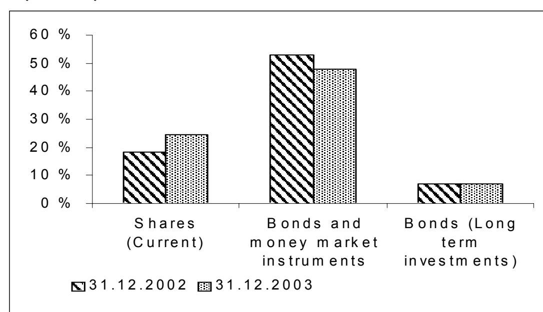
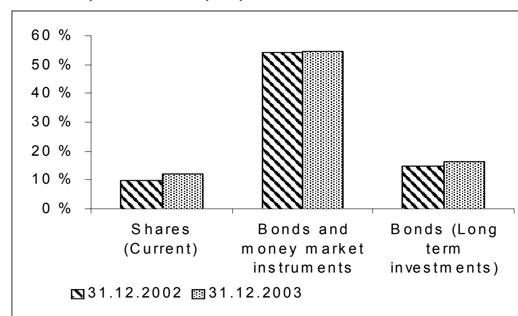


Chart 3.24: Selected balance sheet items in a sample of municipal pension funds 2002-2003



Pension funds hold substantial investments in foreign equity. The private pension funds' foreign equity component accounted for 46 per cent per cent of their current asset portfolio at the end of 2003, while the municipal pension funds' foreign equity component was 47 per cent. Municipal pension funds' foreign equity component rose by as much as 10 percentage points in 2003.

Pension funds' buffer capital

The trend in securities markets in 2003 strengthened pension funds' aggregate buffer capital. At year-end, buffer capital (consisting of premium funds, surplus Tier 1 capital, supplementary provisions with an upward limit of one year's interest guarantee and fluctuation reserves) was measured at NOK 12

billion or 17 per cent of the pension funds' total assets compared with NOK 7 billion or 10 per cent at the end of 2002. There are substantial differences between the private and municipal pension funds in the sample. The private pension funds' buffer capital measured 21 per cent of total assets, compared with 13 per cent in the case of the municipal pension funds. The private pension funds generally held a high equity component at the start of 2003, and the increase in buffer capital largely reflects increases in the value of this holding.

Chart 3.25: Trend in buffer capital in a sample of private pension funds

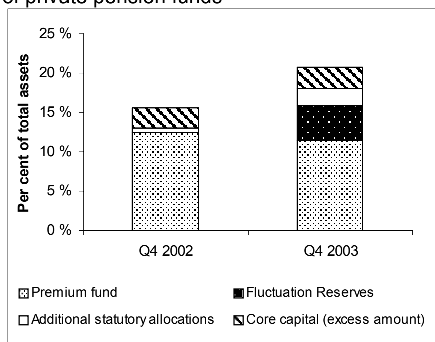
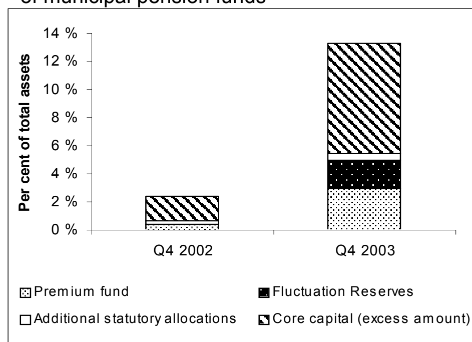


Chart 3.26:Trend in buffer capital in a sample of municipal pension funds



Non-life insurance companies

Like life insurance companies, non-life insurance companies are also relatively heavily exposed to market risk. At the end of 2003 6.4 per cent of non-life insurers' total assets was invested in equities (classified as current assets), having increased by 2.6 percentage points in 2003 after a steep fall of 14.7 percentage points in 2002. Total holdings of bonds and money market instruments measured 53.1 per cent of total assets at the end of 2003, of which 4.5 per cent comprised bonds held to maturity. This compares with holdings of bonds and money market instrument totalling 55.3 per cent at the end of 2002.

Chart 3.27: Non-life insurance companies' holding of equities and fixed-income securities

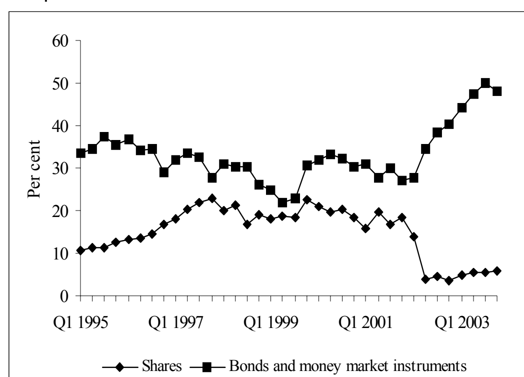
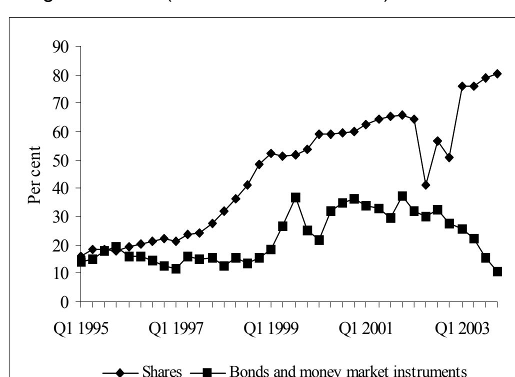


Chart 3.28: Non-life insurance companies' foreign securities (share of current assets)



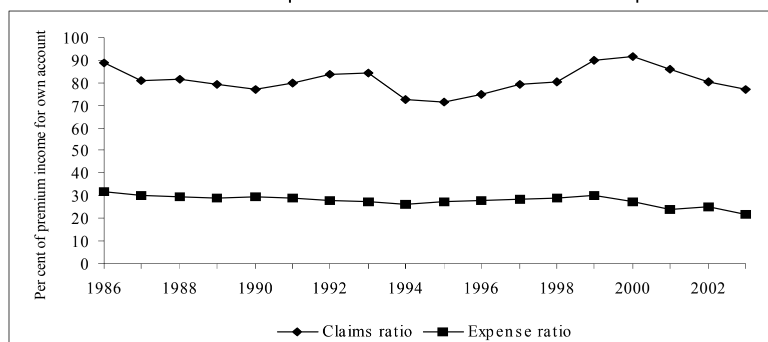
Insurance risk

Insurance risk refers to the varying balance over time between claims expenses and other insurance-related expenses on the one hand, and premium income on the other. The main cause of insurance risk is that claims expenses prove higher than was assumed when the premium levels were set.

Insurance risk usually affects results in non-life insurance companies more than in life insurance companies, since claims expenses are more variable in the non-life sector. For life insurance companies, the risk that the return on their investments will be lower than the minimum interest guarantee is at centre-stage. Although the trend in mortality is stable, life insurance companies are exposed to insurance risk through variations in the trend in disability. In light of the increasing numbers of disabled persons, Kredittilsynet instructed the companies to increase their provisions for disability insurances by the end of 2003.

The non-life insurance sector has shown wide fluctuations in recent years in the relationship between claims expenses and premium income (the claims ratio). As a result of a strong increase in claims expenses from 1998 onwards, the claims ratio rose considerably, contributing to very weak results for non-life insurance companies. After sizeable premium increases in 2000 the claims ratio has gradually fallen back. The claims ratio trend is shown in Chart 3.29 along with the trend in the expense ratio (insurance-related operating expenses as a per cent of premium income). The expense ratio has shown a more stable trend, but tending to fall over time.

Chart 3.29: Claims ratio and expense ratio for non-life insurance companies



The very high claims ratio in the years on either side of the millennium is attributable to a generalised imbalance between premium income and claims expenses, although the trend was particularly weak in certain branches. A pertinent example is occupational injury insurance where the claims ratio was very high partly because earlier claims estimates proved to be too low. Results have generally been weaker in the corporate market than in the retail market. Recent years' premium increases have led to a broad improvement in results and to more uniform results across the various branches.

There has been increasing international interest lately in the linkage between reinsurance and financial stability. Norwegian insurance companies offer very little in the way of reinsurance and, as purchasers of reinsurance, non-life insurers are significantly affected by developments in major international

reinsurers. Prices in the reinsurance market have tended to rise in recent years and this has weakened Norwegian non-life insurers' profitability.

Liquidity risk

For banks, liquidity risk arises due to a mismatch between the maturity on their loans and other claims and the maturity on their funding. A high level of short-term funding of lending activity and other illiquid assets entails high refinancing requirements. Banks' access to funding in the market, and the price of such funding, depends to a large extent on their earnings and financial strength.

In the period up to the mid-1980s, deposits clearly exceeded lending. In the period 1980 to 1992, the deposit-to-loan ratio fell from 173 to 89 percent, cf. Chart 3.30. Although bank lending is still largely funded by customer deposits, the deposit-to-loan ratio was also on falling trend in the 1990s. The background to this is several years of rapid lending growth along with changes in savings patterns with investments in insurance and securities rising at the expense of bank deposits. After a period of relatively stable deposit-to-loan ratios in 2000–2002, slower deposit growth over the past year has led to further decline. The equity market recovery and steep interest rate fall in 2003 contributed to the decline in deposit growth. Even so, other commercial banks have seen their deposit-to-loan ratio increase markedly in 2003 on the back of slower lending growth and rising deposits while savings banks and the largest banks have seen their deposit-to-loan ratio decline.

Chart 3.30: Banks' deposit-to-loan ratio 1960-2003

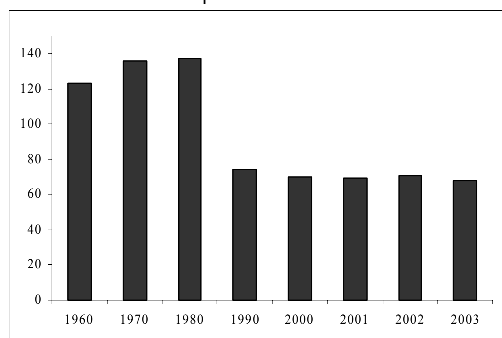
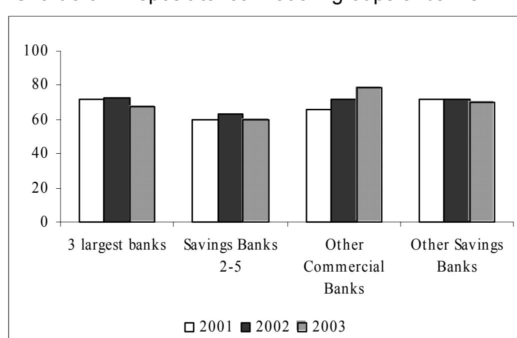


Chart 3.31: Deposit-to-loan ratio – groups of banks



Due to their declining deposit-to-loan ratio, banks have grown more dependent on funding via the money and securities markets. The largest banks and the smallest savings banks have compensated for the fall in the deposit-to-loan ratio by increased long-term funding in securities markets, and the linkage between long-term funding and lending grew in 2003. There are, however, wide variations among the banks. Foreign-owned banks have a high degree of foreign funding due to deposits from parent banks. The three largest banks have better access to foreign funding than the smallest banks.

Chart 3.32: Long-term funding – groups of banks

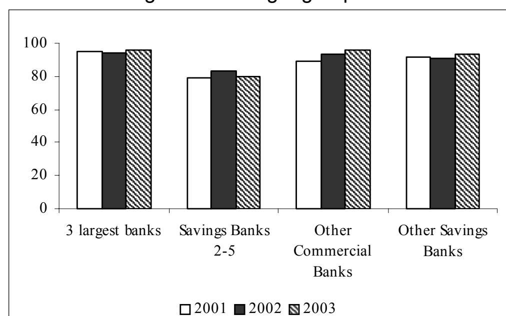
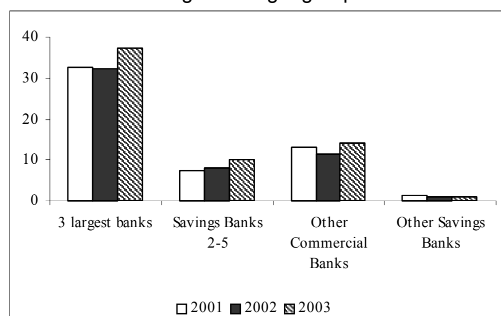


Chart 3.33: Foreign funding – groups of banks



Monitoring banks' liquidity situation

After a number of banks found themselves in a problematic funding situation late in the autumn of 2002, Kredittilsynet decided to survey the liquidity situation in 19 banks. The banks were selected based on an assessment of indicators of liquidity risk, poor profit performance or weak capital adequacy. The most vulnerable ones were followed up by Kredittilsynet in 2003 via regular contacts, analyses and inspections. A synoptic assessment of the liquidity situation in these 19 banks was carried out at the end of the third quarter of 2003. The three banks that were considered at the outset to be in a difficult funding situation had improved their situation considerably one year later. Of the remaining 16 banks included in the survey, five were still classified as banks carrying high liquidity risk.

In the first quarter of 2004 Kredittilsynet is conducting liquidity inspections at a number of midsized and small banks considered to be carrying high liquidity risk. During the inspection emphasis is given to the importance of reducing actual risk levels and to ensuring satisfactory control over liquidity risk. This involves designing an appropriate strategy, setting limits, reporting and ensuring independent controls. The impression is that banks have sharpened their focus on liquidity risk in recent years.

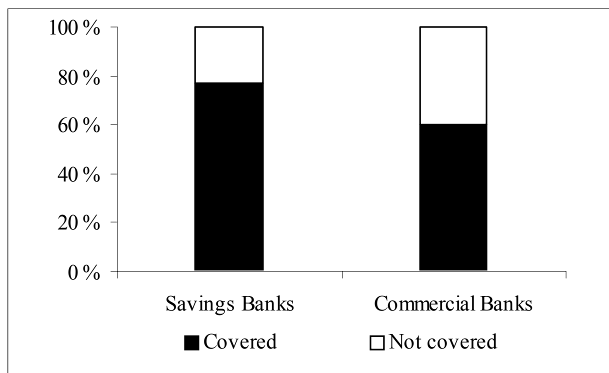
Large deposits

Customer deposits are the main source of banks' long-term funding. Although deposits can be withdrawn at short notice they are nonetheless viewed as a stable and long-term source of funding. Banks' mandatory membership of the guarantee fund means that deposits up to the maximum covered by the guarantee schemes are a "risk-free" investment option for customers. Deposits that are not covered by the guarantee are likely to be less stable than other deposits. Chart 3.34 shows that at the end of June 2003, deposits in excess of NOK 2 million from sectors that are not guaranteed depositors, as defined in the Act on Guarantee Schemes for Banks, constitute 40 per cent of the deposits in commercial banks and 23 per cent in savings banks.

Should a bank in a tight liquidity situation attempt to improve its funding by raising deposit rates to attract customer deposits, this will not entail risk for customers provided the deposits are within the ceilings stipulated for the guarantee schemes. However, high deposit rates could weaken the bank's profitability, and will have negative consequences for other banks. The likelihood that the high level of

the deposit guarantee has a number of detrimental consequences for the banking market cannot be disregarded.

Chart 3.34: Share of deposits covered/not covered by the guarantee schemes



The collapse of the Pentecostal church's savings association, Samspar Norge, which had invested much of its capital in equities and equity funds, illustrates how important it is for depositors to stick to banks if they are to be certain of recovering their deposits. Samspar's dispensation from the rules of the Financial Institutions Act which enabled it to carry on deposit and lending activity was withdrawn by the Ministry of Finance in September 2002. Only two-thirds of the depositors' capital was repaid, the remainder having to be written off.

Operational risk

Operational risk can be seen as the risk of direct or indirect loss resulting from deficient or non-existent internal processes, human error, systems failure or external events. In recent years there has been a growing international focus on the risk of loss due to operational inadequacies. The background to this is inter alia greater dependence on complex ICT-based systems, increasingly numerous and complex financial products and distribution channels, and more complex organisation structures. The proposed new capital adequacy rules introduce a specific requirement to cover this type of risk.

Operational risk is, to a lesser degree than market and credit risk, tied up with the general trend in markets and economic conditions, and is linked more closely to conditions within the individual institution. Banks can suffer substantial losses if operational risk materialises. Although systemic risk is hardly likely to accumulate through the medium of operational risk, supervision of the latter nonetheless incorporates assessments linked to systemic risk. Given the growing market concentration, also where infrastructure, the use and operation of ICT solutions are concerned, there is a growing danger that problems affecting the largest individual institutions and central ICT providers will diminish confidence in much of the financial system. Operational risk referring to payment systems failure is also likely to affect a larger number of banks simultaneously.

An important aspect of institutions' operational risk refers to the financial infrastructure. Developments in payment and settlement systems for banks and in clearing and settlement systems for securities markets have for several years been marked by consolidation and internationalisation. However, the tendency has been for individual banks to evaluate a number of ICT service providers. There have been several instances of payment systems failure in recent years, both in Norway and elsewhere, albeit without dramatic consequences.

Banks are highly dependent on ICT systems, at the same time as their operation and development is often outsourced to professional ICT providers. Supervision attaches importance to adequate control and management of operational risk. A number of steps have been taken to reduce risks in connection with settlement and clearing operations in securities markets and the electricity market. Turbulence in underlying markets increases the risk of failure. Industrial action or spillover effects in the event of a participating bank or investment firm becoming insolvent could also lead to increased risk. Efficient and effective risk management and control in infrastructural institutions is imperative with a view to minimising the risk of infrastructural failure.

4. Pension saving in life insurance companies

Pension insurance is Norwegian life insurance companies' most important business area. Their mission in this business area is to ensure that customer assets are managed in such a way that the agreed pensions can be paid when they fall due. Pension insurance is funded by premiums paid and by the return the company achieves on its asset management. Experience tells us that insurance risk (mortality/disability) and cost elements play an insignificant role in this context, and are not included in this elaboration.

At the end of 1999 about 30 per cent of life insurers' assets were invested in equities. In light of developments in securities markets and life insurers' low risk-bearing capacity, the companies had reduced the equity component in their balance sheets to 7.3 per cent by the end of 2002. The subsequent equity market recovery enabled them to bring the equity component back to 12 per cent by the end of 2003.

This chapter focuses on the challenges facing life insurers in managing pension insurance assets in a low-interest-rate scenario. The chapter concludes with a brief account of the position for pension funds.

Products offered in the life insurance market

Norwegian life insurance companies offer a range of products. Table 4.1 shows each product group's relative share of overall life insurance funds. Group life insurance and individual group insurance are not included.

Table 4.1: Product categories in Norwegian life insurance companies.
As per cent of aggregate life insurance funds as of 30.09.2003.

Product category	As per cent of life insurance funds
Individual endowment insurance, guaranteed minimum annual return	3.9
Individual endowment insurance, unit linked	0.3
Individual pension insurance, guaranteed minimum annual return	16.8
Individual endowment insurance, unit linked	4.0
Group pension insurance, guaranteed minimum annual return	74.9
Group pension insurance, unit linked	0.1

Oslo Pensjonsforsikring AS is not included in this table.
Source: Norwegian Financial Services Association

Products where the insurer offers an annual guaranteed minimum interest rate account for more than 95 per cent of life insurance companies' insurance funds. The interest guarantee requires the companies to add to their premium reserve an annual minimum return corresponding to the technical rate employed in the technical calculation base for each product, and is designed to assure members' pension rights. The maximum basic interest rate is set by the authorities and is currently, as from 1 January 2004, 3 per cent for all new rights accumulated under defined-benefit group pension schemes. Since already existing contracts have a higher basic interest rate, the average rate comes out at 3.7 percent. The premium reserve may be viewed as a measure of a company's debt to its policyholders.

Insurance funds linked to group defined-benefit pension schemes account for about 75 per cent of life insurers' overall insurance funds. Defined-benefit group pension insurance is one of the products on which insurance companies offer an annual guaranteed minimum interest rate. In many cases more than 30 years elapse between the first premium payment and disbursement of pension. Over such a long period sizeable fluctuations in the annual rate of return on assets under management are only to be expected.

Defined-benefit pension schemes long reigned supreme in the Norwegian market for private occupational pension insurance. In recent years the stage has been set for occupational pension products that do not include a compulsory interest guarantee (i.e. defined-contribution pensions and single premium pensions). An issue critical to the future of defined-benefit occupational pension schemes is their overall cost to employers. Estimated total pension costs could well rise by 20–25 per cent if annual rates of return were to fall by 1 percentage point. Hence the return achieved by life insurers on their assets is decisive for employers' pension costs.

Table 4.2: Pension schemes as of 31.12.2003 in life insurance companies* and management companies for securities funds

Type	Number of premium-paying contracts	Life insurance funds
Defined-benefit pension schemes (DB)	16 264	NOK 113 400 million
Defined-contribution pension schemes ** (DC)	1 857	NOK 690 million
Transferred from DB to DC	127	NOK 376 million

* Municipal pension schemes not included.
** Of which in management companies: No. of contracts: 87, managed assets: NOK 39 million

By the end of 2003 contracts written for defined-contribution pensions had risen to almost 1,900. The average amounts paid in on these contracts are small. Only a small number of the contracts are the result of defined-benefit schemes being converted to defined-contribution schemes. More than 90 per cent of defined-contribution contracts are with unit-linked companies.

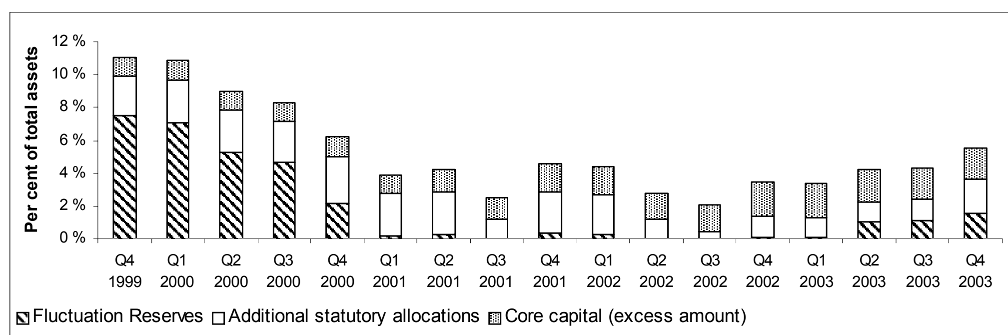
Life insurance companies' asset management

Life insurance companies invest their assets with several considerations in mind. Key factors are: The year in which pension payments start, the total payments due at any time, and the minimum-interest

guarantee. Long-term rates of return are dependent on the investments' risk profile. The higher the expected rate of return, the more uncertain the outcome. Hence the rate of return anticipated by a company will to some extent be determined by the company's risk-bearing capacity.

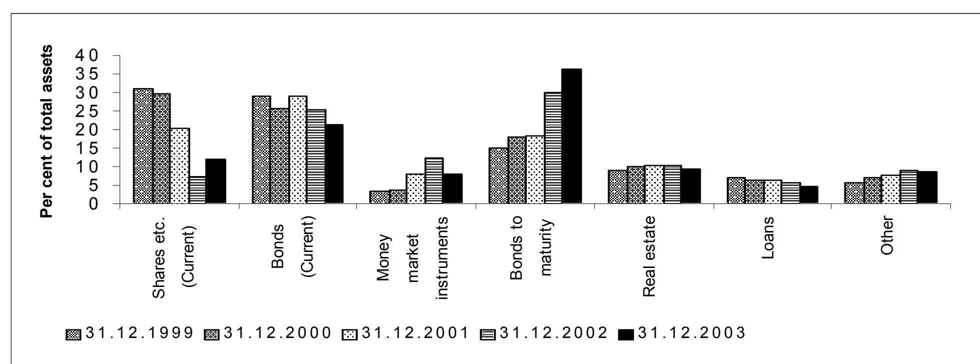
Buffer capital can be viewed as a measure of risk-bearing capacity. In our context it is defined as the sum of surplus Tier 1 capital, supplementary provisions equivalent to up to one year's interest commitment (less any supplementary provisions used in the calculation of risk-weighted assets) and fluctuation reserves. At the end of 2003 life insurers' buffer capital totalled NOK 25 billion, or 5.5 per cent of their assets. Surplus Tier 1 capital accounted for about one-third of this total. The stock market recovery strengthened the companies' buffer capital by NOK 11 billion (2.1 percentage points) in 2003. Despite this, life insurers' risk-bearing capacity remains weak. Recent years' experience shows that they are shielding their equity capital. Hence their buffer capital effectively consists of supplementary provisions (which are policyholder assets) and fluctuation reserves (which are largely policyholder assets), but not surplus Tier 1 capital.

Chart 4.1: Trend in life insurance companies' buffer capital



Life insurers' aggregate equity holding measured 12 per cent of total assets at the end of 2003 compared with 7 per cent one year previously. The proportion of money market instruments and bonds held as current assets dropped from 37 per cent of total assets to 29 per cent, while the proportion of bonds classified as "held to maturity" rose by 6 percentage points to 36 per cent of total assets at the end of 2003.

Chart 4.2: Trend in life insurance companies' balance sheet assets



Life insurers' aggregate holding of bonds "held to maturity" totalled NOK 166 billion at the end of 2003, i.e. an increase of NOK 42 billion from the end of 2002. Table 4.3 breaks down this holding on maturities. By far the largest portion of this holding (73 per cent) falls due after 2006, and the interest rate on the entire portfolio stands at 6.0 per cent. By switching from equities to bonds held to maturity, the companies are assured a satisfactory return for accounting purposes for some years. However, the switch restricts the companies' ability to benefit from the equity market recovery. Moreover, returns on the bond holding will diminish over time as bonds carrying a relatively high coupon rate fall due.

Table 4.3: Holding as at 31.12.2003 of bonds classified as "held to maturity". Per cent

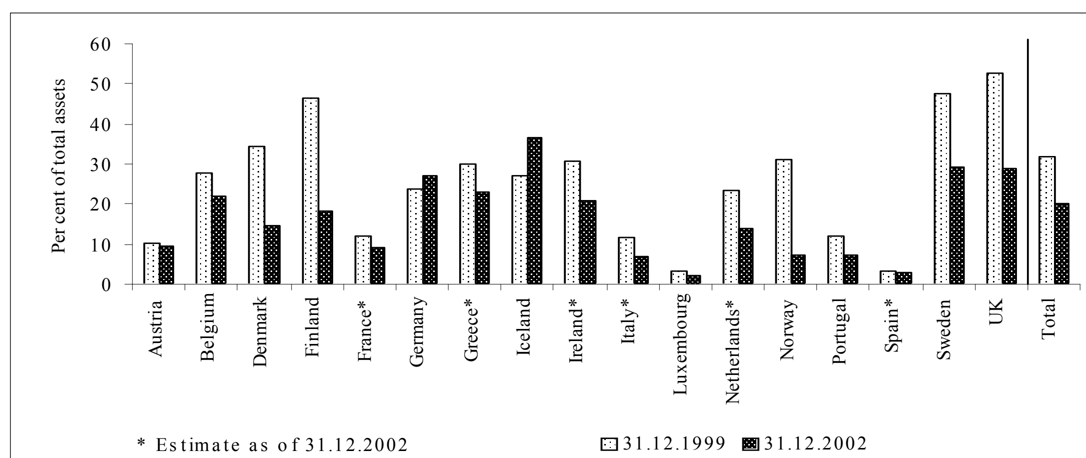
	Maturing in 2004	Maturing in 2005	Maturing in 2006	Maturing after 2006	Total
Per cent of total assets	4.5 %	3.0 %	2.2 %	26.5 %	36.2 %
Average interest rate	6.5 %	6.6 %	6.2 %	5.8 %	6.0 %

"Average interest rate" means interest taken to income as a per cent of the holding maturing in the period in question. All figures in Norwegian kroner.

International developments

In the wake of equity market turbulence in the period 1999 to 2002, Kredittilsynet conducted a survey of the trend in the equity component of the balance sheets of life insurance companies within the EEA. The survey showed that the equity component fell on an EEA-wide basis from 32 per cent of total assets at end-1999 to 20 per cent at end-2002. The reduction was steepest in 2001 and 2002.

Chart 4.3: Life insurance companies' equity component in the EEA area



Generally speaking, the equity component fell furthest in countries where this component was high at the outset (end-1999), and it fell further in countries where the equity component is valued at market prices than in countries where this is not the case. The reduction reflects falling values as well as disinvestment. Equity holdings fell in most countries, but most of all in Norway, partly due to regulatory differences.

Defined-benefit pension schemes are run as pension funds in most countries in Europe, and not by life insurance companies as is the case in the Nordic countries. Hence the time horizon for investments in

life insurance companies' portfolios is shorter in most European countries than in Norway and other Nordic countries.

Rate of return and guaranteed minimum interest rate in life insurance

In the great majority of cases, saving in traditional life insurance companies entails, as mentioned, a guaranteed interest rate assuring the policyholder a minimum rate of return on his or her savings. This guarantee applies each and every year, whereas saving for pension purposes is long term, frequently over 30 years. A guaranteed rate of return as such is not necessarily problematic in a long-range perspective, but the short horizon applied to the interest guarantee may conflict with optimal long-term asset management.

Studies of historical data show that investing in equities has produced a substantially higher excess rate of return than government bonds, although there have been long periods in which bonds have performed best. By way of example, it took almost 30 years for equity prices in the US, measured by the S&P Composite Index, to return to the level in effect prior to the Wall Street crash of 1929.

Calculations of rates of return in the Norwegian market show that equities produced an excess return averaging 4.9 per cent in the period 1920-2000[2]. When the years 2001–2003 are included, the figure is 4.6 per cent.[3] Elsewhere, most empirical studies have been based on the American market due to the availability of long rates-of-return series of good quality. An excess rate of return averaging 4.4 per cent per year has been calculated for the period 1900-2002. Calculations based on a reference portfolio featuring equity markets in countries corresponding to the Petroleum Fund's equity investments show an excess rate of return of 5.1 per cent.

Historical excess rates of return are no guarantee that investing in equities will provide a similar excess rate of return in the future. Any assessment of how changes in the equity component of life insurance company balance sheets affect portfolio rates of return needs to take into account the co-variance of return on equities and bonds. Experience shows that equities and bonds have followed diverging paths in a number of cyclical situations. This could suggest that there is a diversification gain to be achieved by including equities in the portfolio.

Calculations by Kredittilsynet show how differing portfolio compositions affect the likelihood of a rate of return that is below the annual guaranteed interest rate. The guaranteed rate is set at 3.5 per cent. Calculations have also been made showing the outcomes had the companies' time horizon been three or five years. Forty per cent of life insurance companies' total portfolio is assumed to be invested in bonds held to maturity. The remaining 60 per cent is invested in bonds and equities. Two cases are illustrated for the distribution of the 60 per cent. In the first case the companies' investments are

[2] Johnsen 2003, figures updated to 2004.
[3] Ibbotsen Associates/Norges Bank 2003.

assumed at all times to comprise 50 per cent short-term bonds and 10 per cent equities (close to the actual situation at the start of 2003), while in the second case the bond and equity components are assumed to be identical (30 per cent each).

The interest rate on the bond portfolio (bonds held to maturity and short-term bonds) is set at 5 per cent. Excess return on equities is set at 3 per cent, i.e. lower than historically observed in Norway and elsewhere. Estimates for uncertainty and co-variance are based on a broadly diversified international portfolio. Had historical data for volatility in the Norwegian stock market been used, the probabilities listed below would have been substantially higher. Life insurance companies' foreign equities account for about two-thirds of their total equity holding, rendering data for Norwegian stock markets somewhat less relevant. The model does not take into account extreme market situations which substantially reduce the reliability of the lowest probabilities.

Table 4.4: Likelihood that annual return on life insurance companies' aggregate portfolio will be lower than 3.5 % (left-hand column) or negative (right-hand column) with various interest-guarantee time horizons

Portfolio composition	40+50+10	40+30+30	*40+50+10*	*40+30+30*
Likelihood of:	return <3.5 % p.a.		*return <0*	
With 1-year guarantee	31.5 %	32.4 %	*6.5 %*	*11.2 %*
With 3-year guarantee	20.0 %	21.3 %	*0.3 %*	*1.5 %*
With 5-year guarantee	13.7 %	15.0 %	*<0.1 %*	*0.2 %*

As the table shows, the likelihood of achieving a rate of return below the guaranteed interest rate of 3.5 per cent is little affected by the equity component, essentially because the level of interest rates on the bonds is close to the technical interest rate. The calculations show that the likelihood of achieving a rate of return above the guaranteed interest rate rises markedly with a longer time horizon. However, the likelihood of a negative overall rate of return is heavily dependent on the equity component (6.5 and 11.2 per cent, corresponding respectively to about every fifteenth and every ninth year on average). Here too, the time horizon is key.

In order to accommodate the increased downside risk attending a high equity component, companies need risk-bearing capacity. Should the rate of return on bonds fall all the way down to the basic interest rate, a company which has not built up a capital buffer would either have to call in more risk capital from its owners or invest the entire portfolio in bonds held to maturity. In practice, companies shield their equity capital when policyholder-generated buffers decline. Companies are therefore likely to expand their holding of bonds held to maturity so long as these provide an acceptable rate of return. In today's market, government bonds maturing in less than about four years' time provide a rate of return *below* the average technical rate.

Calculations show that the risk of posting a rate of return below the guaranteed minimum interest rate is not significantly affected by the equity component when interest rates are low, and that the risk diminishes with a longer horizon. The expected rate of return for the portfolio with a 30 per cent equity

component is higher than for the portfolio with a lower equity component. The higher the excess rate of return expected on equities, the higher the rate of return that will be expected on the portfolio with the highest equity component. Hence this assessment of expected rate of return and risk suggests that it would be prudent for life insurance companies to opt for a higher equity component in their investments than is the case today. To ensure that investments are guided by long-term objectives and not dominated by short-term interest-guarantee considerations, it is imperative for companies to maintain buffers to compensate for inadequate rates of return in individual years.

Implications of weak risk-bearing capacity

Value-adjusted results for 2004 for life insurance companies have been calculated under various scenarios for equity markets and companies' equity components. The calculations are based on results at the end of 2003 and on developments in equity and fixed-income markets up to 13 February 2004. The "reference scenario" for 2004 assumes 15 per cent growth in Norwegian and international equity markets. Longer Norwegian rates are assumed to remain unchanged in 2004, while long German and American rates are assumed to rise by about 0.8 percentage points. On these technical assumptions, value-adjusted results (net profit in excess of guaranteed return) in 2004 will be lower than in 2003. With a constant equity component of 12 per cent in 2004, the value-adjusted result is estimated at NOK 9.7 billion (2.2 per cent of average total assets) in 2004. A 20 per cent higher equity component is estimated to improve the result by NOK 4.5 billion (to 3.1 per cent of average total assets).

In a scenario of surging (bull) equity markets equity values are assumed to rise by 30 per cent in 2004, while in a scenario of sluggish (bear) equity markets equity values are assumed to fall by 15 per cent. Table 4.5 shows how value-adjusted results are affected by the two scenarios and by differing equity components in the balance sheet. The estimates show the sensitivity of life insurance companies' results to the posited equity market scenarios and equity components, and are not forecasts for profit performance in 2004.

Table 4.5: Value adjusted result for 2004 with various alternatives for equity component and equity market trend

2004 Per cent of average total assets	Equity component as per cent of balance sheet assets	
Equities	20 per cent	12 per cent
Bull market	6.3 %	4.1 %
Reference	3.1 %	2.2 %
Bear market	-2.6 %	-1.3 %

The calculations show that in a bull market value-adjusted results will range from NOK 30.2 billion (6.3 per cent of average total assets) with a high equity component to NOK 19.4 billion (4.1 per cent of average total assets) with a constant equity component. This range corresponds to 2.2 per cent of the companies' aggregate average total assets. Under the reference scenario, which assumes a 15 per cent rise in equity market values in 2004, the result effect of an increased equity component is smaller than the effect under the bull or bear market scenario.

Chart 4.4 shows buffer capital under the above equity market scenarios when the equity component in the balance sheet at end-2003 remains unchanged. Maximum accumulation of buffer capital, and no dividend pay-out, is assumed. Under the reference scenario, buffer capital constitutes 7.2 per cent of total assets compared with 9 per cent and 4.1 per cent respectively in a bull or bear market. Under more realistic assumptions for dividend, realisation of capital gains and profit retention, buffer capital is 1-2 percentage points lower. Chart 4.5 assumes an equity component of 20 per cent. Under the reference scenario buffer capital measures 8 per cent of total assets, and 10.9 per cent and 2.8 per cent respectively in a bull and bear scenario. Here too buffer capital is somewhat lower under more realistic assumptions for dividend, realisation etc.

Chart 4.4: Buffer capital with 12 % equity component and maximum accumulation of buffer capital*

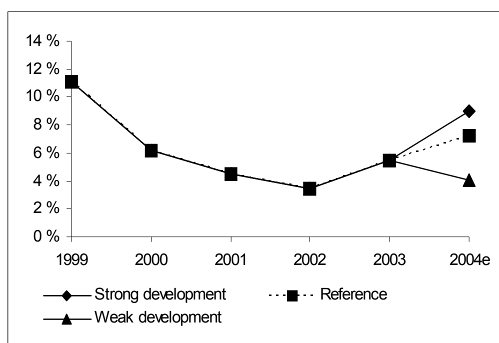
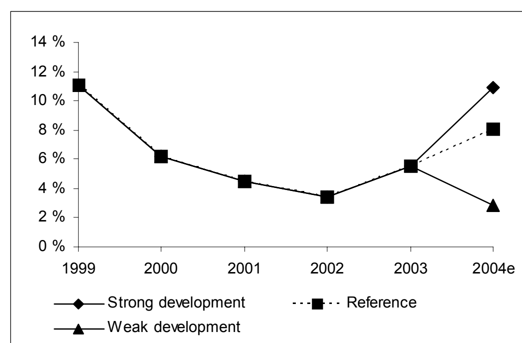


Chart 4.5: Buffer capital with 20 % equity component and maximum accumulation of buffer capital*



*All price-dependent financial revenues are added to the fluctuation reserves. After statutory allocations, the entire year's book profit goes to supplementary provisions.

Challenges ahead

Based on the empirical studies described above, there is much to suggest that, over time, investing in equities will produce a higher rate of return than investing in bonds. On the other hand, historical data show that equities carry greater risk.

Defined-benefit pension insurance products offering a guaranteed annual minimum interest rate account for a significant portion of life insurance companies' business. Hence it is imperative for these companies to maintain an investment strategy that assures an annual rate of return enabling them to honour the interest guarantee. This in turn necessitates a buffer sufficient both to absorb downside risk and to honour the guarantee.

The importance of sufficient buffer capital is clear from the calculations outlined above. Based on the assumptions made, a situation in which the rate of return falls below the guaranteed minimum interest rate could arise roughly every third year. A negative rate of return, on the other hand, is only likely every fifteenth year (6.5 per cent). In a situation where there is little difference between the investment portfolio's expected rate of return and the basic interest rate, there is a greater likelihood that the rate of

return will be lower than that required by the basic interest rate. Hence for a given risk profile, a larger buffer is required when interest rates are low.

Low interest rates can be expected to persist in Norway and across the globe in the next few years. This means that life insurance companies' value-adjusted results are likely to remain at a low level. In years of weak results there will be little opportunity to generate buffer capital on the basis of ordinary operations. Under the present rules buffer enlargement may conflict with equity servicing, particularly when net profits are on the low side. According to law, if the investors opt for return on their capital, about two-thirds of the net profit carried forward must be irreversibly allocated to the policyholders.

Recent years' experience suggests that life insurance companies tend to reduce their investment risk when the customer-generated buffer is on the low side. This reduces the opportunity to expand the buffer. Insufficient buffer capital prevents companies from investing a larger portion of total assets in equities with a view to achieving a higher rate of return in the longer term. The above calculations show that if interest rates remain low there will be little opportunity to build up a larger buffer.

Most of the problems and challenges described above are also relevant to pension funds. There are nonetheless significant differences. Life insurance companies opted to reduce the equities component in their balance sheets when customer-generated buffers diminished. Although pension funds also set a minimum annual rate of return, many of them have not decreased their equity investment, in contrast to the life insurers. At the same time they have received fresh risk capital from the institutions backing them. In all likelihood, these institutions consider it more worthwhile in the longer term to reinforce risk-bearing capacity than to reduce the equity component. That is why many pension funds are now better placed than the life insurers to address the challenges posed by a low interest rate scenario.