FINANCIAL STABILITY REPORT

2004

CNB CZECH NATIONAL BANK

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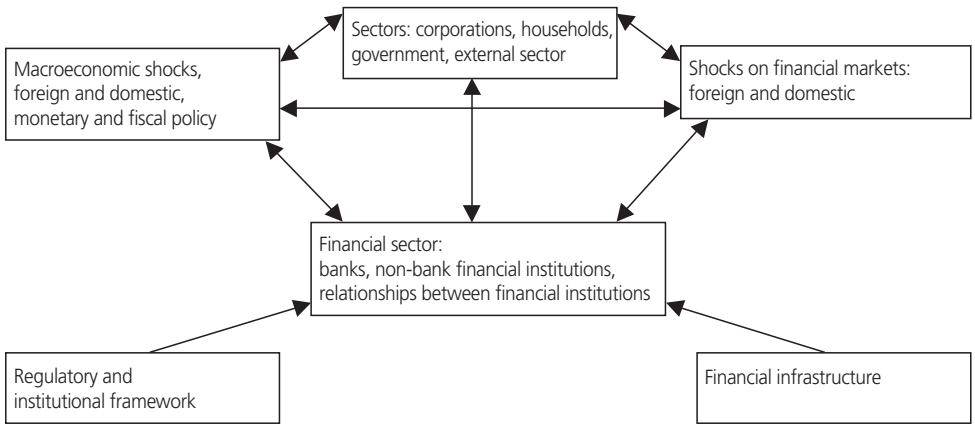
The Czech National Bank is pleased to present its new Financial Stability Report to the public. The method of exposition used in the Report is based on the fact that the financial sector operates in an environment shaped by external and domestic macroeconomic developments, developments on the financial markets, and developments in non-financial corporations and households – the main debtors and creditors figuring in financial institutions' balance sheets. Shocks arriving from this environment in the form of changes in market and credit risks affect the stability of the financial sector. Destabilising factors can take the form of contagion stemming from the problems of a single financial institution if that institution presents a systemic risk. In extreme cases, these shocks can lead to destabilisation of the financial sector. Financial institutions then fail to fulfil their functions or fulfil them poorly. They have problems obtaining funds from depositors or suffer an outflow of funds. They are unable to continue financing the economy smoothly. Sharp swings occur on the financial markets. All this impacts unfavourably on the real economy. The success with which financial organisations cope with external and internal shocks and eliminate the potential adverse effects depends on their efficiency, effectiveness and capital strength. A crucial aspect is their ability to manage risks. The regulatory framework and the supervision of financial institutions are important, especially as regards preventing financial instability. The smooth operation of the financial infrastructure, including payment systems and securities settlement systems, has a bearing on financial stability.

The following diagram shows the logic of the approach to analysing financial stability:



The structure of the Financial Stability Report follows the above approach to analysing financial stability. Following an introductory summary of the Report's principal conclusions, section 2 analyses the main macroeconomic trends and financial market developments both abroad and in the Czech Republic. Particular attention is paid to possible risks having a potential impact on the stability of financial institutions. Section 3 examines developments in the domestic corporate sector and households. These are the primary source of credit risk for the financial sector. Their balance sheets and economic results are thus linked closely with the balance sheets and economic results of financial institutions. The performance of the financial sector, however, is not just a passive reflection of developments in its economic surroundings. Financial institutions' economic results also reflect their internal ability to adjust and react flexibly, which, in turn, is affected by their capital strength, standard of management and, more generally, quality of corporate governance. Market structure, which determines the competitive environment, and legislative and regulatory developments are also important. These aspects are dealt with in section 4, which analyses selected items of financial institutions' performance, asset quality and structural characteristics as well as the latest regulatory trends. Section 5 is devoted to the elements of the financial infrastructure administered by the Czech National Bank, i.e. the interbank payment system and the short-term bond system. The two annexes contain information on stress testing conducted on the banking sector, including the aggregated results of selected tests, and a comprehensive overview of the other parts of the financial infrastructure residing outside the CNB.

The Report devotes greater attention to non-bank financial institutions than other CNB publications focusing on the banking sector. The banking sector remains the core of the financial system, but the weight of other, non-bank financial institutions and of products competing with traditional banking services is steadily growing. The inclusion of these institutions in the analysis of financial stability provides a more comprehensive picture.

This Financial Stability Report was approved by the Bank Board of the Czech National Bank on 9 December 2004. It is available in electronic form at http://www.cnb.cz/.

1 SUMMARY

THE WORLD ECONOMIC BOOM HAS HAD A FAVOURABLE EFFECT ON FINANCIAL SECTOR STABILITY

Over recent quarters the world economic boom has had a favourable effect on the Czech economy and the stability of its financial sector. Despite differences from nation to nation, the economic recovery has generally been stronger than expected. The main engines of the world boom are the USA and the major Asian economies. The new EU member states neighbouring the Czech Republic have achieved relatively buoyant growth. The recovery in the euro area has been slower. Even in Western Europe, however, conditions have steadily been created for renewed economic growth. The risks to the financial sector have gradually diminished.

THE OPTIMISM REGARDING GROWTH HAS BEEN REFLECTED ON THE FINANCIAL MARKETS

This trend has been reflected on international financial markets. The optimistic outlook for the global economy has translated into narrowing spreads between corporate and government bonds. Share prices remain high after recording sharp growth in 2003 and early 2004.

THE UNBALANCED DEVELOPMENT OF THE US ECONOMY POSES A RISK

Several imbalances and problems persist in the world economy which could present a risk to sustainable economic growth in the medium term and to the stability of the financial markets. The chief risk continues to be the internal and external imbalance of the US economy. A sudden unmanaged correction of these imbalances could lead to a fairly marked slowdown in US economic growth, a swing in the exchange rate of the dollar and disturbances on international financial markets. All this, in turn, could impact unfavourably on global economic growth.

STRUCTURAL PROBLEMS PERSIST IN THE EUROPEAN ECONOMY

A hard landing for the US economy could also expose more clearly the persisting structural problems in the European economy, especially if the dollar continues to weaken at the same time. Despite the great emphasis laid within the EU on the Lisbon process, which should revive the European economy, only recently and only in some countries have measures been initiated to enhance the efficiency and adaptability of the European economy.

PRICES OF OIL AND OTHER COMMODITIES POSE A RISK TO GLOBAL GROWTH

In 2004 there was also a sharp rise in the prices of oil and other major commodities. This was fostered by several short-term factors of a geopolitical/climatic nature. However, long-term trends and cyclical factors are also at work. Growing demand for energy resources and key commodities on the part of China and other Asian economies, linked with their buoyant economic growth, will affect the situation on the markets for these commodities in the long term.

ECONOMIC GROWTH HAS ALSO PICKED UP PACE IN THE CZECH REPUBLIC

Thanks to the external recovery, economic growth also picked up pace in the Czech Republic in 2004. One positive sign is that in 2003 the growth was driven in large part by domestic consumption, whereas in 2004 the contribution of investment was stronger. Buoyant growth in industry and exports is continuing, fostering an improvement in the balance of trade.

THE EFFECTS OF PAST FOREIGN DIRECT INVESTMENT ARE MAKING THEMSELVES FELT ON THE SUPPLY SIDE OF THE ECONOMY

The absence of significant demand-side price pressures in 2004 and the improving balance of trade suggest that the economy has not yet run up against its capacity constraints. This could be a sign that the positive effects of past FDI inflow and corporate restructuring on the supply side of the economy and its potential growth are making themselves felt. According to the CNB's October 2004 forecast, however, the output gap should move into positive figures in 2005, and that should translate into a rise in demand-pull inflation. In this situation there is a risk of cost inflationary effects connected with the evolution of oil and other commodity prices and a step increase in public sector wages, which could also affect wages in the enterprise sector.

THE OUTPUT GAP SHOULD CLOSE IN 2005

PUBLIC FINANCES ALSO REMAIN A PROBLEM FOR FINANCIAL STABILITY

Public finances remain a macroeconomic risk. Fast growth in public debt due to persisting public budget deficits has already resulted in a downgrading of the Czech Republic's koruna rating from Standard & Poor's. As regards financial stability, there could be a problem with growth in the risk premium, which would lead to rising interest rates and could generate increased exchange rate volatility.

FINANCIAL INDICATORS IN THE CORPORATE SECTOR SHOWED AN IMPROVEMENT

The continuing economic recovery was reflected in the financial condition and behaviour of the corporate and household sectors. Recent quarters have seen an improvement in the majority of corporate financial indicators. Profitability has been distinctly procyclical, and in 2004 it rose further. On the other hand, corporate sector debt fell slightly, despite the fact that lending to corporations showed a change in trend in 2003, starting to rise again after several years of decline.

THE QUALITY OF THE ASSETS IN FINANCIAL INSTITUTIONS' BALANCE SHEETS IMPROVED

The evolution of the domestic boom, corporations' balance sheets and household indebtedness was reflected in the financial sector. The quality of financial institutions' assets continued to improve in 2003 and 2004. In addition to cyclical effects, past systemic and institutional factors linked with the privatisation of large banks and the clean-out of bad loans from their balance sheets played a role here.

THE BANKING SECTOR IS GENERATING RELATIVELY HIGH PROFITS

The banking sector, which, with roughly three-quarters of total assets, constitutes the core of the financial system, generated high profits for the third consecutive year. In the first half of 2004, it recorded a net profit to assets ratio of around 1.25%. This is roughly double the figure achieved in Western European countries, whose banking sectors have been hit by the past economic downturn. Within the profit structure, the share of interest profit declined and that of profit from fees increased, against a background of low interest rates and a narrowing interest rate spread.

DESPITE FALLING SLIGHTLY, THE CAPITAL ADEQUACY RATIO REMAINS HIGH

Over the long run, profit is financial institutions' primary source of capital. Banks' favourable profitability fostered an increase in their capital. However, the capital adequacy ratio (CAR) fell slightly in 2004, reflecting rising bank lending to customers as well as the previously relatively high CAR. Consequently, in conditions of a stabilised sector and favourable macroeconomic developments, banks reduced their CARs somewhat. Despite the recent fall, the banking sector CAR was roughly 13.6% in mid-2004, well above the required threshold of 8%.

BUT A LARGE PROPORTION OF THE PROFIT IS BEING TRANSFERRED TO FOREIGN OWNERS IN THE FORM OF DIVIDENDS

In recent years an increasingly large proportion of earnings has been transferred to foreign owners in the form of dividends. In 2003 the figure was almost 80% of net profit, which according to balance of payments data represents around 40% of all the earnings repatriated from the Czech Republic abroad. Banks thus represent a major factor in, and at the same time a risk to, the evolution of the external balance of the economy as measured by the current account. Given the life cycle of foreign direct investment in the banking sector, the outflow of earnings abroad can be expected to continue.

CREDIT RISK HAS DECREASED IN THE CORPORATE SECTOR

There have been structural shifts in lending, and hence in credit risk, in the banking sector in the last several years. The improving macroeconomic environment and corporate sector performance have led to a decrease in the risks arising from this sector. This, in turn, has given rise to a further decline in the share of bad loans in banks' balance sheets. In mid-2004, the proportion of classified loans was slightly above 10% and that of non-performing loans around 4.5% of total loans. Banks moreover have their potential losses sufficiently covered by provisions and reserves. The degree of coverage, including collateral, in mid-2004 was more than 150% of the potential losses.

BUT THERE IS A QUESTION MARK HANGING OVER THE FUTURE DEVELOPMENT OF CORPORATE BALANCE SHEETS, OWING TO ONGOING COST SHOCKS AND POSSIBLE WAGE CONTAGION FROM THE PUBLIC SECTOR

This trend, however, should be interpreted with caution. In 2005 credit risk could rise owing to a potential deterioration in corporations' financial results caused by the evolution of oil and other commodity prices and by a possible rise in wage costs due to wage contagion from the public sector. The falling figures on risky loans may also underestimate the true extent of the potential credit risk. In a period of recovery and new lending the loan quality statistics improve, but in reality the potential credit risks can rise as banks' credit exposure grows over the economic cycle. These risks do not become apparent until the boom slows or the economy goes into decline. What until then were quality loans can change quickly into problem loans.

THE HIGH GROWTH IN LENDING TO HOUSEHOLDS IS A RISK

The same applies to loans extended to households. These loans have been rising strongly in recent years. In mid-2004, year-on-year growth of more than 35% was recorded. To date (given their fairly brief history) they have been a relatively high quality item in banks' balance sheets. Owing to the rate of growth of household debt, however, they now pose a major potential risk which might manifest itself in the event of a deterioration of the economy and households' financial situation. This applies not only to consumer credit, which is the lowest quality component of loans to households, but also mortgage loans and building society loans. Collateral in the latter case is of higher quality, but that does not eliminate the risks in the event of a fall in the ability to repay such loans. The long-term nature of mortgage loans, the related possibility of a change in interest rates, the fact that they are secured by real estate, and the danger of price swings on the property market will together present an increasingly significant risk factor for banks as these loans continue to grow.

IN MODEL STRESS TESTS, THE BANKING SECTOR AS A WHOLE PROVED ITS RESILIENCE TO ADVERSE MARKET AND CREDIT SHOCKS

To assess banks' resilience to some of the above risks, the banking sector was stress tested in model simulations of adverse changes in interest rates, the exchange rate and loan quality. The effects of combinations of these shocks were assessed by comparing the capital adequacy ratio before and after the shocks. The banking sector as a whole passed these tests and its capital adequacy ratio did not fall below 10% even after relatively large adverse shocks.

INTERNATIONALISATION AND GROWTH IN COMPETITION ON THE FINANCIAL SERVICES MARKET HAVE THE POTENTIAL TO RAISE THE QUALITY OF SERVICES…

…BUT AT THE SAME TIME MAY CONSTITUTE A NEW CHANNEL FOR THE SPREAD OF ECONOMIC PROBLEMS FROM COUNTRY TO COUNTRY

The banking sector's international linkages and the growing internationalisation of the financial services market are introducing new aspects and potential risks into the banking sector and the financial sector generally. The privatisation of banks into the hands of strong foreign financial companies and the presence of other foreign banks on the domestic market has increased the stability and efficiency of the banking sector. The predominant foreign ownership of banks, however, could also be a potential channel for cross-country transmission of economic problems. Cross-border provision of banking and other financial services, together with the fact that doing business in the sector has been made easier by the single European licence, could also play a role. These forms of financial services provision may be more volatile than the services traditionally provided by domestic institutions and may thus introduce some instability into the financial sector. On the other hand, the growth in competition associated with this trend should have a positive effect on the quality and price of the services offered. There is so far a lack of evidence on the impact of these factors on the financial sector and its stability. Nevertheless, the trend does represent something of a challenge for regulators. International collaboration among banking supervisors is becoming increasingly important.

REGULATORY AND LEGISLATIVE DEVELOPMENTS HAVE BEEN DIRECTED AT MORE ACCURATE MEASUREMENT OF BANKING RISKS

Recent regulatory and legislative developments have been directed primarily at more accurate banking risk measurement and hence at more appropriately calculated capital requirements. The new Basel II capital adequacy framework should act in this direction, as should, for example, the development of

international accounting standards. More accurate assessment of the risks undertaken by banks and other financial institutions should thus further enhance their stability and enable them to operate more efficiently.

THE WEIGHT OF THE BANKING SECTOR IS FALLING IN FAVOUR OF OTHER FINANCIAL INSTITUTIONS…

Although the banking sector remains the main component of the financial system, its weight is steadily falling in favour of other financial institutions, most notably insurance companies, pension funds, open-ended mutual funds and leasing companies, as well as other organisations. This trend reflects the low initial level of development in these areas. At the same time it also signifies a gradual change in risk structure in the financial sector. The aforementioned diversification of the financial sector is proceeding in parallel with the establishment of consolidated financial units containing various types of financial service providers. This is creating the potential for efficiency gains linked with rationalisation of resource and infrastructure use in the financial sector. But it may also generate new problems linked with the spread of risks between the individual members of consolidated units and with the need for different approaches to risk management within individual financial services. In this situation an important role is being played by consolidated supervision and co-operation between the domestic regulators (the CNB, the Czech Ministry of Finance and the Czech Securities Commission) within the Committee on the Co-ordination of Financial Market Supervision, formed on the basis of a trilateral memorandum of understanding. In 2004, a plan to integrate financial market supervision was approved by the government.

…AND CONSOLIDATED FINANCIAL UNITS HEADED BY BANKS ARE OPERATING IN THE MARKET

THIS REQUIRES CO-OPERATION BETWEEN REGULATORS

By international comparison the Czech financial sector is the largest among the new EU member states from Central and Eastern Europe in terms of asset size as a percentage of GDP. However, the depth of financial intermediation is still less than in the advanced European economies. There are also some differences in the structure of the financial sector. However, these differences will recede into the background during the process of creating the single European financial services market. The application of the single licence in the financial services area and the cross-border provision of such services will reduce the information value of the data on national financial systems.

FINANCIAL STABILITY HAS ALSO BEEN FOSTERED BY THE SMOOTH OPERATION OF THE FINANCIAL INFRASTRUCTURE

Financial stability was also fostered by the smooth operation of the interbank payment system and the short-term bond system – the elements of the financial infrastructure administered by the Czech National Bank. The interbank payment system processes more than a million transactions a day on average, amounting to hundreds of billions of Czech koruna. The legislative changes in this area last year were directed at harmonising the Czech legislation with EU law and at enhancing the quality and security of the services provided.

FORWARD-LOOKING STRATEGY SHOULD TAKE INTO ACCOUNT THE NEW RISKS ARISING IN A PERIOD OF BOOM

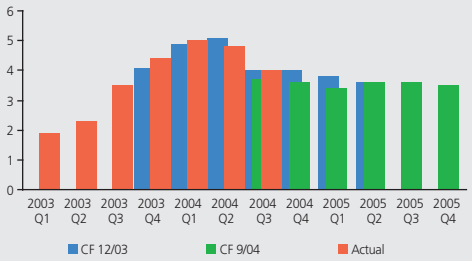
To sum up, we can say that the financial sector further strengthened its position and enhanced its stability over the past year. It was aided by favourable developments in the economic environment and by continuing enhancement of internal control mechanisms. Consequently, the sector's resilience to external shocks increased. Despite some domestic and external economic problems as mentioned above, the economic boom should continue into 2005 and positively affect the financial condition of businesses and households. The risks to financial stability stemming from the current credit exposure should thus continue to diminish. In an upward phase of the economic cycle, with lending recovering and picking up pace again, new potential risks arising from new credit exposure are simultaneously emerging. In a period of boom, the rational strategy of financial institutions must be based on the principle of setting aside sufficient resources to cover any future risks which might materialise later on when the economy slows.

2 THE MACROECONOMIC ENVIRONMENT

2.1 GLOBAL ECONOMIC AND FINANCIAL CONDITIONS

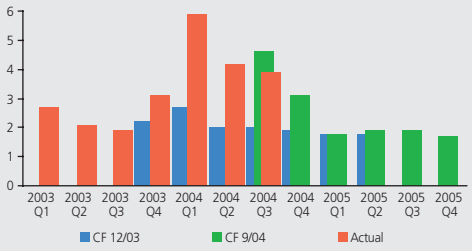
The Czech economy is very open to international goods trade and financial flows, and the external environment is a source of positive and negative shocks for it. Owing to the geographical orientation of Czech foreign trade, and given that the largest Czech banks are controlled by European banking groups, developments in Europe are of key significance for the Czech economy. Nevertheless, equally important for the soundness of bank, corporate and household balance sheets are the financial and monetary conditions, which are determined by global developments, since capital and financial markets are less segmented than goods markets. Liquidity and real yields are determined on a global scale by the situation and economic policy not only in Europe, but also in other regions, the main risks being concentrated around the internal and external imbalances of the USA.

CHART II.1
Actual and expected economic growth in the USA
(% year on year)



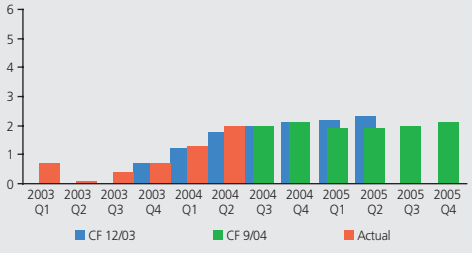
Source: CNB, Consensus Forecast

CHART II.2
Actual and expected economic growth in Japan
(% year on year)



Source: CNB, Consensus Forecast

CHART II.3
Actual and expected economic growth in the euro area
(% year on year)



Source: CNB, Consensus Forecast

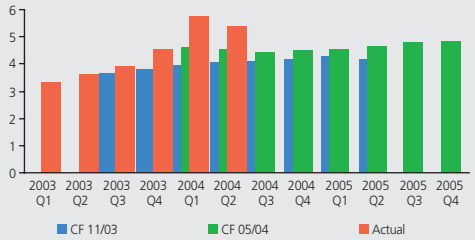
In 2004, the world economy grew at the fastest pace in 30 years. According to an IMF estimate, the growth rate was approximately 5%. The engines of the world boom in 2004 were the USA, Japan, China and other Asian countries. Whereas the recovery in the USA had been expected, the Japanese economy, surprisingly, grew in the first half of 2004 at the fastest pace in fourteen years. This growth was more than double that predicted in the end-2003 Consensus Forecast. Private investment accounted for much of the American and Japanese booms. In the USA the contribution of net exports was negative, whereas the Japanese recovery initially reflected strong external demand, particularly from the USA and China. The current Japanese boom seems to be more robust than the last recovery in 2000, which only briefly interrupted a long series of stagnations and declines running since 1998. The strong recovery in Japan is also largely due to improved conditions for financial intermediation, as the Japanese financial sector has managed, with the aid of the government, to shed part of its long-term burden of bad loans and reduce its exposure to the stock market. Thanks to improved capital adequacy, especially in large banks, the credit crunch is unwinding and banks are starting to lend again. Also, a very significant contribution to overall world growth is being made by China, whose economy was growing by more than 9% p.a. When converted by the market exchange rate, the Chinese economy is now equivalent to approximately 35% of the Japanese economy, and if the current growth trends continue it will be larger by around 2015. However, in terms of purchasing power parity, the Chinese economy is already the second largest world economy behind the USA. Nevertheless, it is believed that China is currently producing above its potential output. The positive output gap is already manifesting itself as growing inflation, and there are widespread concerns that the correction of this imbalance might not be smooth. The Chinese government is aware of this and is therefore trying to dampen economic activity – and especially investment – by means of administrative measures. A slowdown might also occur in the event of a more significant appreciation of the Asian currencies vis-à-vis the dollar, which governments there are resisting by making huge dollar purchases.

The euro area economies grew faster than expected, although the expansion was slower than in North America and East Asia. The economic growth in Europe was driven by the global expansion, with net exports contributing to the growth particularly in the first two quarters. Conversely, European investments were de facto flat. France is something of an exception, with domestic demand accounting for much of its growth. In 2004, the Czech Republic's largest trading partner, Germany, was growing one-third slower than the euro area as a whole. Nevertheless, even this was a positive surprise. Germany is more dependent on global growth than other European countries. Its businesses were under pressure

from input prices, and its low wage growth, continuously rising unemployment and generally low consumer confidence were not providing a sufficient impulse for a domestic demand recovery. The economies of our closest non-euro area trading partners, i.e. Slovakia, Poland and Hungary, grew faster than expected. These countries, which in total account for around 15% of our export market, profited from the global boom. Nevertheless, unlike in the previous period and in other European countries, the rapid GDP growth in Slovakia in 2004 was also driven by domestic consumption. Poland's economic growth was the most vigorous in the region and was due mainly to growth in net exports. The situation was similar in Hungary.

Estimates indicate sustained modest growth in the euro area going forward, thanks to a continuing, albeit rather weaker, global boom. In Germany, however, advance indicators and indices of business confidence suggest a slowdown. Weaker export growth is being registered, and this is not being sufficiently offset by domestic demand. The weak demand is consistent with growing unemployment. A downturn is also expected in the USA. In Japan, the expansion is expected to weaken, but it will continue thanks to above-average corporate profitability and investment activity, as confirmed by optimistic business survey results.

CHART II.4
Actual and expected effective economic growth in Slovakia, Poland and Hungary
(% year on year)

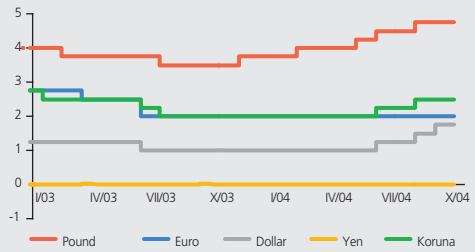


Note: Economic growth in Slovakia, Poland and Hungary weighted by share in exports from the Czech Republic.
Source: CNB, Consensus Forecast

2.2 GLOBAL IMBALANCES AND RISKS

The picture of a strong global recovery, which at first glance seems very favourable, conceals a number of financial imbalances posing a risk to future growth and stability. A direct risk is a possible continuation of rising oil prices, which may bring about higher-than-expected inflation, a related monetary policy response and a turbulent reaction on the bond market. The current global recovery is being accompanied by low real interest rates, and the medium-term financial conditions, as measured by indexed bond yields, are relaxed by historical comparison. The question arises as to how the world economy will cope with a return of interest rates and yields to the normal levels.

CHART II.5
Selected monetary policy rates
(%)



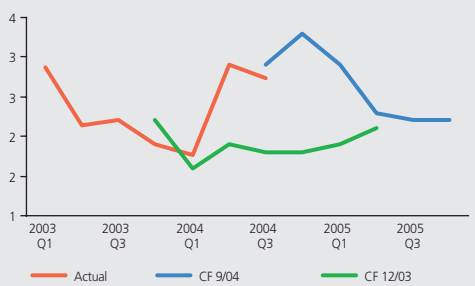
Source: CNB

A substantial risk is the possibility of a turbulent correction of the USA's external imbalance. This would be associated with depreciation of the dollar and a decline in prices of longer maturity bonds. Given the current active exchange rate policy of Asian central banks, it is likely that the US currency would depreciate most of all against the euro and other European currencies. A euro appreciation would negatively affect external demand and growth in Europe. The longer-term risks include a number of fiscal risks in the USA, Japan and Europe.

Implications of easy monetary and fiscal policies

Comparisons of monetary policy interest rates with current and expected inflation suggest that real interest rates are negative in the USA, China and Japan and are around zero in the euro area.

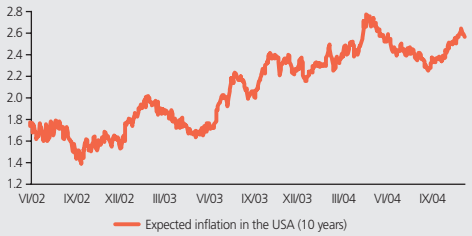
CHART II.6
Actual and expected inflation in the USA
(%)



Source: CNB, Consensus Forecast

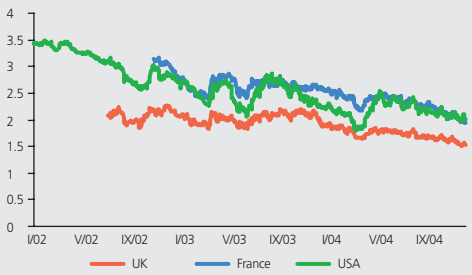
Stimulative monetary policy has been a particularly important factor of the USA's economic recovery. The central bank responded to the recession in 2001 by rapidly and significantly lowering interest rates, which in mid-2003 fell to a long-term low of 1.0% p.a. The Fed started slowly increasing interest rates again in the first half of this year. Easy monetary policy also stimulated the considerable depreciation of the dollar in 2003, which helped to end the long-running recession in manufacturing and stop job losses in this sector. Owing to deflationary concerns, monetary policy was meanwhile easier than in previous declining phases of business cycles.

CHART II.7
Proxy for long-term inflation expectations derived from indexed bonds
(%)



Note: Difference between yields on government conventional and indexed bonds
Source: CNB

CHART II.8
Yields on long-term indexed bonds
(%)

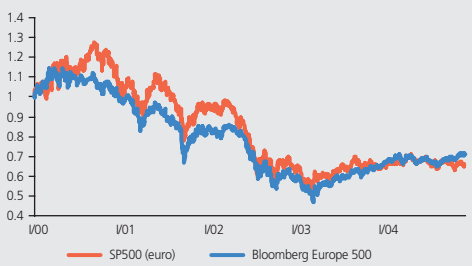


Source: CNB

CHART II.9
Actual and expected inflation in Japan
(%)

Source: CNB, Consensus Forecast

CHART II.10
Equity indices



Source: CNB

Given the advanced phase of the business cycle, current interest rates in the USA can be viewed as still easy. In the context of rising commodity prices, the previous depreciation of the dollar and the advanced phase of the economic recovery, the indicators of current inflation have increased and inflation expectations have risen. This will continue to ease the monetary conditions autonomously unless nominal rates rise sufficiently fast. Ensuring a smooth shift to the normal interest rate level is a difficult task for a central bank. If it increases rates too slowly, there is a danger of a loss of market confidence in its resolve to maintain price stability. Higher inflation expectations and a higher inflation risk premium would imply growth in long-term government bond yields. On the other hand, during the necessary tightening of monetary conditions, many businesses could run into financial difficulties. An overly aggressive approach could pose a risk of a wave of bankruptcies and instability on the mortgage market.

Monetary policy created the preconditions for the current boom in Japan, too. The Japanese central bank succeeded in partly breaking deflationary expectations through a quantitative easing, i.e. by targeting the growing volume of banking reserves amid zero interest rates. The fall in consumer prices is almost at an end and expectations are slightly inflationary going forward. This has meant a reduction of real interest rates and stimulation of consumption and investment.

The low dollar interest rates and the fixed exchange rate of the Chinese juan are also fostering an overheating of the Chinese economy. Despite administrative measures, thanks to the globally easy monetary conditions China is experiencing an inflow of foreign investment and excess liquidity. Its banking sector is not able to allocate this efficiently and the volume of bad loans is rising. The USA in particular is calling on China to abandon its fixed exchange rate and switch to a more flexible system, which would probably lead to appreciation of its currency. This would enhance the USA's manufacturing competitiveness, but an increase in the dollar value of bad loans would pose a higher risk to Chinese banks, which are viewed as too weak to cope with their exposure to an indebted and inefficient government sector.

The low real interest rates and excess world liquidity are generating historically low real yields, as is documented for example by yields of inflation indexed bonds. Consistent with the low yields are high prices of other financial and non-financial assets, including real estate. A real yield lower than the natural interest rate is stimulating household borrowing, both for direct consumption and for housing investment. A measure of this is a rapid global increase in the ratio of mortgage loans to GDP. According to IMF figures, this ratio is at historical highs of around 65% in the USA and the United Kingdom (these two countries have the highest ratio behind the Netherlands, which leads with a record-breaking figure of around 100%). At the same time, property prices have been rising fast – the ratios of price to gross rent and average price to disposable income are at record levels in most of the advanced economies except Germany and Japan.

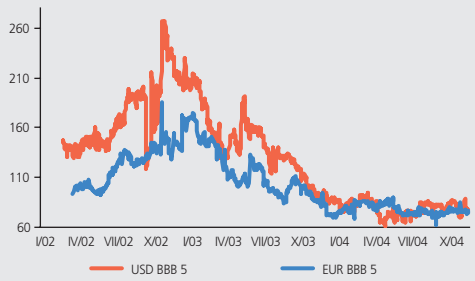
The easy monetary conditions helped to slow the decline in equity prices during their collapse in 2000 and 2001 and contributed to the turnaround and growth on stock markets in the period that followed. In 2004, stock prices were stable and remained relatively high in relation to expected earnings. Prices of corporate bonds are also relatively high and the spread between their yields and risk-free assets is low. This reflects the improving balance sheets of corporations, which succeeded in meeting the growing domestic demand with their existing capacities and were thus able to generate strong cash flow. Moreover, given low interest rates and yields, businesses were able to spread their debt repayments further into the future. This improvement in financial results implies a lower risk of debt defaults

and bankruptcies. However, it is also possible that the relatively high prices of these assets reflect an effort to gain a higher return even at the cost of excessive risk, in an environment of generally low real yields and excess liquidity.

The analogous price movements of European and American equities expressed in the same currency, similar corporate bond spreads and the parallel decline in real yields in the USA and Europe illustrate how closely the financial markets in these two key world regions are interconnected.

There is a risk that the current high asset prices and debt level not only naturally reflect low real yields on the financial market, but also are leading to speculative behaviour, i.e. that the easy conditions have fostered the creation of various financial bubbles. This could entail excessive growth in property prices, unjustified expectations regarding future equity returns and a related low savings ratio, an explosion of consumer loans and excessive consumption. The low return on standard assets may also stimulate excessive investment in risky assets such as speculative grade bonds. These problems are invisible during a period of excess liquidity. They can emerge as a threat to financial stability only when real rates and yields return to normal and when opportunity costs increase for unprofitable or dubious projects.

CHART II.11
Corporate bond (BBB) spreads



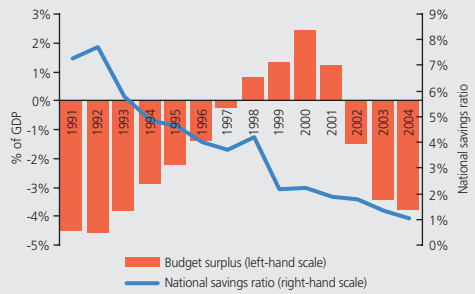
Source: CNB

Fiscal policy

Until the end of the 1990s, the improving public finance balance in the USA offset the long-term fall in its national savings ratio. Nevertheless, tax allowances, temporary investment incentives and growth in government expenditure since then have led to a situation where the federal budget recorded a current deficit of about 3.5% of GDP in the fiscal year 2004. A deficit of similar size is also planned for the following year. However, looking further ahead, the ability of budget policy to stimulate domestic demand is limited, owing to the need to implement fiscal reforms in a relatively short timescale. Without such reforms, the deficit would explode due to social security and health system liabilities.

Very high budget deficits in Japan are the price of the fight against long-term stagnation and deflation. The deficits in 2002 and 2003 were around 8% of GDP, but in the fiscal year 2004 the deficit will fall below 7% of GDP and it looks set to continue declining. A long series of high budget deficits has led the Japanese government to a record high debt of around 165% of GDP. Budget policy is also precarious in Europe. Following the lead of Germany and France, several other countries are now contravening the Stability and Growth Pact, despite the economic recovery. If poor budget discipline in the euro area leads to doubts being cast on the single currency project, this might naturally have serious implications for macroeconomic stability.

CHART II.12
National savings ratio and budget deficit in the USA



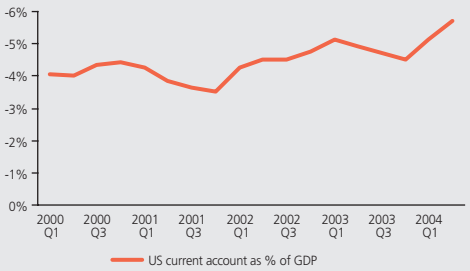
Source: CNB, Federal Reserve

The budget problems in the most important economies have not so far affected their yields very much. Growing debt is usually positively linked to long-term bond yields, but the sufficient global liquidity, which to some extent is wiping out the differences, has the dominant effect at present. For example, Italy had its S&P rating downgraded in July from AA to AA- because of its deteriorating fiscal outlook. However, prices of Italian government debt have hardly responded to this change as yet.

The USA's current account deficit

The low US national savings ratio coupled with a recovery in investment activity is affecting the USA's current account deficit, which in mid-2004 approached 6% of

CHART II.13
The US current account
(%)



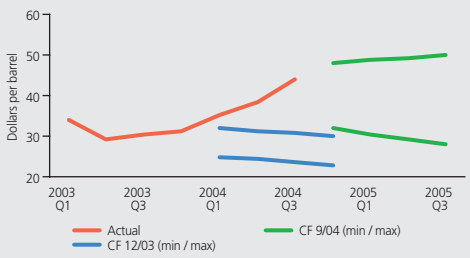
Note: Annualised seasonally adjusted quarterly figures
Source: CNB

GDP on a quarterly basis. The current account has worsened despite a real effective depreciation of the dollar against other major currencies, which has not yet fed through to the balance of trade. This current account deficit is considered unsustainable. Nevertheless, owing to the relative strength of the US economy, high oil prices and expected interest rate growth, which will lead to a decline in the income balance, the current account deficit is expected to stay above 5% of GDP for some time. This will result in a further worsening of the USA's investment position. For future debt stabilisation, the goods and services trade balance will need to show quite large surpluses. This can be achieved by some combination of faster economic expansion on the USA's export markets, a dampening of domestic demand and a further lowering of the relative prices of American goods, i.e. a continuing depreciation of the dollar. For the world economy and financial stability generally, the nature of this combination is of crucial importance. The worst-case scenario – a "hard landing" – would be a turbulent depreciation of the dollar accompanied by growth in long-term dollar yields. This would imply a relative slump in import demand due to an increase in import prices and also a downturn in US domestic demand generally as a result of the high yields. A sudden decline in foreign investors' confidence and their willingness to finance these deficits therefore poses a risk to the economy and financial stability in the USA and other countries. The relative size of the deficit is important not only in relation to the size of the US economy but also in relation to the global volume of savings.

The external position of the East Asian economies is the mirror image of the situation in the USA. While the USA is running a large current account deficit, the Asian countries are showing large surpluses. The total current account surplus in the South-East Asian countries covers almost half the USA's deficit. Current account surpluses and private foreign investment inflows are exerting appreciation pressures on their currencies.

A characteristic feature of foreign, and especially Asian, central banks is their role in financing the USA's current account deficit. These institutions are intervening in the foreign exchange market against their own currencies in order to maintain the competitive advantage of their economies. Until 2001 investment by foreign central banks and governments covered less than one-tenth of the US current account deficit, whereas by 2003 the share of Asian central banks had risen to almost one-half. Since 2002, these institutions have to some extent substituted for private capital. Most of the funds purchased by Asian central banks are invested in the US government bond market or mortgage market. This large volume of funds has probably affected prices on this market in the direction of a fall in yields, although it is hard to gauge to what extent. Thus the circle closes: the weaker exchange rate facilitates higher sales of Asian goods in the USA, and purchases of these goods are de facto financed by the cheap credit that Asian central banks provide to American consumers and the US government.

CHART II.14
Actual and expected oil price evolution (WTI)



Source: CNB, Consensus Forecast

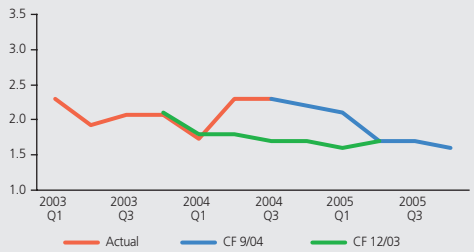
High oil prices

In 2004, oil prices were way above even the most pessimistic forecasts given in Consensus Forecast's representative survey. The risk is that the unexpectedly higher costs will mean decreases in the rates of return or feasibility of economic projects, many of which are financed by credit and loans. High oil prices also mean a shift of wealth from consumers in importing countries to exporters. An increase of 10 dollars a barrel implies a rise of around USD 300 billion in the value of annual oil production. Firms, households and governments in importing countries thus have on average fewer reserves overall to withstand other possible shocks. Unexpectedly high commodity prices thus increase the pressures in the financial system, which is characterised by higher-than-usual financial leverage.

The wide dispersion of the current predictions demonstrates the uncertainty regarding the causes of the high oil prices and regarding the future outlook. Growth in oil demand in China is an undisputable long-term trend. Per capita oil consumption there is currently around 2–3 barrels per year, whereas the USA consumes almost 25 barrels per capita and Japan and South Korea between 15 and 17 barrels. Assuming continuing output growth, there is thus still considerable potential for growth in demand in China. According to the information available it seems that there may not be enough reserves on the supply side. Therefore, all temporary outages and threats to extraction caused either by the weather or by political tension and disturbances are strongly affecting oil prices. In this volatile environment, price movements are being amplified by speculative purchases.

Oil prices are viewed as the main risk to price stability in Europe. Nevertheless, here, in contrast to other regions of the world, the macroeconomic trends are relatively stable and have not so far revealed significant financial imbalances. Inflation and its outlook in Europe show significantly less variability than in the USA and Japan. The annual changes in the overall harmonised index of consumer prices have been moving within a narrow band for numerous quarters, and, despite some rise in inflation in 2004 Q3 and Q4 linked with rising energy prices, the medium-term inflationary pressures do not seem to be mounting.

CHART II.15
Actual and expected inflation in the euro area
(%)

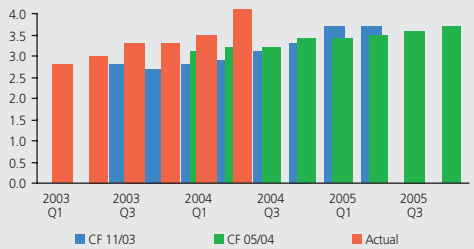


Source: CNB, Consensus Forecast

2.3 THE DOMESTIC MACROECONOMIC ENVIRONMENT

The global recovery was one of the factors giving rise to favourable developments in the Czech economy. In 2004, the business cycle experienced a turnaround for the better. By comparison with the Consensus Forecast predictions, the economic growth in the Czech Republic came as a surprise, although it was in line with the CNB's spring 2004 forecasts. These had predicted a rapid pick-up in economic growth and gradual closure of the output gap in the course of this year.

CHART II.16
Predicted and actual GDP growth in the Czech Republic
(% year on year)

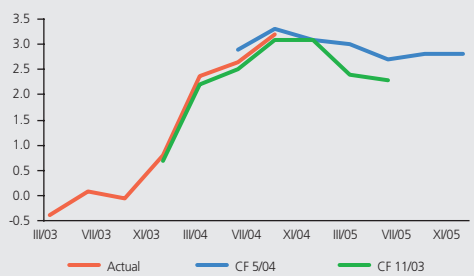


Source: CZSO, Consensus Forecast

In its October 2004 assessment, the Czech National Bank stated that real output was still below potential (i.e. the output gap remained negative) and that this situation was continuing to have an anti-inflationary effect. This is confirmed by monetary policy inflation, which was only moderate. The current pick-up in inflation can be attributed primarily to cost shocks. Fuel prices have increased, but the dramatic oil price growth might have corresponded to a much higher rise in domestic petrol and diesel prices, even when one takes the exchange rate into consideration. However, it can be expected that continuing growth in oil prices would lead to greater pass-through into fuel prices. Thanks to a good harvest, food prices had an anti-inflationary effect.

Good external and internal prerequisites exist for the economic boom to continue. The economy is operating below its potential, and the strong external demand together with stimulative monetary conditions may cause the so far non-inflationary growth to continue. For the next few quarters, the CNB in its October 2004 forecast predicts a maintenance or modest pick-up of the current GDP growth rate and a gradual closing of the output gap. The favourable results of business surveys are consistent with this. However, demand-pull inflationary pressures are expected to emerge in the course of next year as the output gap turns positive.

CHART II.17
Predicted and actual inflation in the Czech Republic
(%)



Source: CZSO, Consensus Forecast

The CNB's inflation forecast predicts that inflation will be close to the centre of the inflation target band at the monetary policy horizon. This will be most apparent in an acceleration of the monetary policy component of inflation. Oil prices will have an inflationary effect, but this will be offset at least in the short term by the effect of food prices.

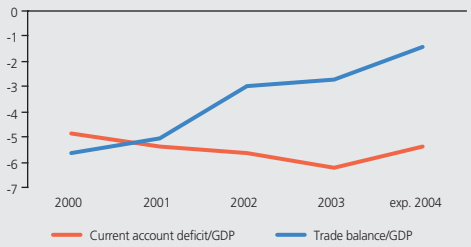
In the CNB's macroeconomic forecast, a modest rise in interest rates in the longer term is consistent with the future closing of the output gap and rising inflation. However, the higher interest rates should not imply a substantial increase in interest rate risk and a worsening of the financial stability conditions. The Czech National Bank operates in a transparent inflation targeting regime, so its monetary policy should not take firms and households by surprise.

Structure of economic growth

The CNB's expectations regarding the evolution of the individual components of GDP also materialised. The growth was attributable to fixed investment and particularly to exports, whose annual growth rate in 2004 reached almost a historical high. Strong growth was recorded not only for goods exports, but also for services revenues, which, having been flat or falling for thirteen quarters, returned to two-digit growth. The pick-up in exports was mainly due to renewed economic growth in EU countries, most notably Germany. The lagged effect of the easing of the real exchange rate was favourable as well.

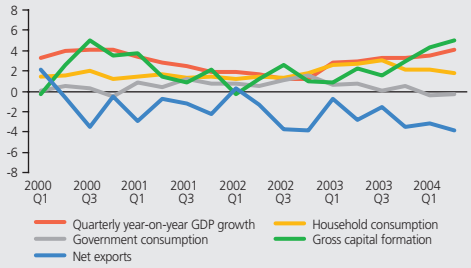
Continuing real export growth – stimulated by external demand – can most probably be expected going forward as well. Nevertheless, the influence of investments, which have a high import propensity, will result in imports maintaining their modest lead over exports in 2004 and, to a lesser extent, in 2005 as well. This will translate into a continuing widening of the real net export deficit in both years. In nominal terms, however, the trade deficit can be expected to narrow gradually. Owing to the stock of foreign investment being accumulated, however, we can expect a worsening income balance, which, from the point of view of the current account, will counteract the improvement in the balance of trade.

CHART II.18
Current account deficit and trade balance
(% of GDP)



Source: CNB

CHART II.19
Contributions to GDP growth
(%)



Source: CNB, CZSO

Gross fixed capital formation was consistent with the current phase of the business cycle, as investment usually rises faster than total output when the output gap is closing. Private investment growth was stimulated primarily by the previous upturn in export activity combined with a steady improvement in the sentiment of European and domestic corporations regarding the world economic recovery. The acceleration of the economic boom will probably be reflected in future investment, but gross fixed capital formation is likely to be rather slower than in 2004, since the reasons for the extreme capital construction – associated with VAT changes – have worn off. Investment demand will be stimulated mainly by an upswing in growth abroad, a weaker exchange rate and a relatively favourable interest rate component of the real monetary conditions index. Turning to sources of financing, increased fixed capital formation in the corporate sector will be supported by the favourable economic performance of this sector, as signalled by corporate financial indicators. Another supporting factor is the ongoing inflow of foreign direct investment.

The positive outlook for investment demand is also underpinned by the data on lending, which show a pick-up in lending to non-financial corporations. The year 2004 saw a rise in investment loans with maturities of over one year, and for the first time in several quarters there was annual growth in lending to foreign controlled corporations. Generally speaking, growth in the share of long-term loans, which are mostly of an investment nature, can be double-edged with respect to financial stability. Long-term investment above all raises the economy's potential and is therefore desirable. But on the other hand, it also implies an increase in the level of leverage in the economy and – by definition – higher risk. However, in the current phase of the cycle, when the economy is operating below its potential, a relatively low number of unprofitable economic projects can be expected.

Unlike export and investment growth, the growth in real household final consumption expenditure in 2004 is estimated to have been somewhat slower than in 2003. This is due to rather slower disposable income growth, resulting mostly from slower real wage growth, which outweighed a rise in the number of hours worked. Nevertheless, household consumption growth is expected to remain relatively strong in 2005. The consumption sentiment of households will gradually improve, the favourable trend being apparent in most components of the consumer climate. This is directly linked, *inter alia*, with expected improvements in labour market conditions. Household consumption growth will also be positively affected by the easy interest rate component of the monetary conditions, which will also be reflected in household demand for external financing, i.e. mortgage and consumer loans. Summing up, in addition to external resources, improving employment and a pick-up in wage growth in 2005 will create sufficient funds to finance consumption and prevent a decline in the gross savings ratio.

On the supply side, growth was recorded primarily in industrial production. This was due chiefly to improving labour productivity, amid a continuing decline in both the number of employees and unit wage costs. This was naturally reflected in better financial indicators for most corporations. By contrast, growth is being achieved in the construction industry largely through a growing workforce. This is reflected in full capacity utilisation amid construction euphoria linked with VAT adjustments and accession-related expectations.

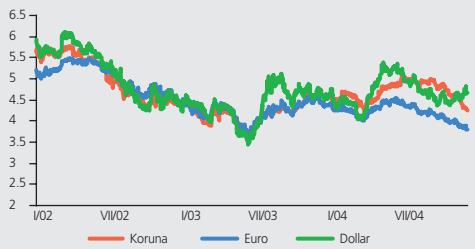
Financial market indicators

Long-term financing conditions are affected by developments on world markets. The widening of the spread between yields on koruna debt instruments with long maturities and euro-denominated instruments witnessed this year is probably a reaction to expectations of higher inflation and slightly higher interest rates in the Czech Republic than in the euro area.

The price of the Czech Republic's euro-denominated external debt is an important new reference figure for Czech businesses that are financed in foreign currency. This euro benchmark makes it easier to issue euro-denominated corporate bonds and thus helps corporations to diversify their liabilities. On the investor side, the benchmark is a welcome completion of the markets, as investments in European government bonds can be more easily diversified without assuming exchange rate risk. The first issue of ten-year government eurobonds was successfully subscribed in June 2004 in an environment of abundant liquidity. These bonds, together with the comparable Slovak debt, are being traded with a fairly low spread of about 20 basis points relative to the yield on German debt. The analogous Hungarian bonds are only slightly more expensive and stand at the same level as Italian debt. The improving status of Polish eurobonds is worth mentioning. Their spread against the European benchmark has decreased significantly, thanks mainly to improved state budget discipline. When assessing these spreads, one should take into account that it is hard to isolate the factors which affect them. Such factors include both credit risk and liquidity premia.

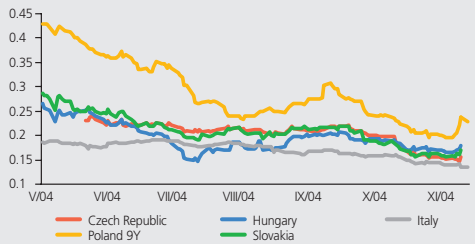
The optimistic outlook for the corporate sector is in line with developments on the Prague Stock Exchange, where prices are at long-term highs. Equity index growth in the Czech Republic has been faster than in neighbouring countries and on major world markets, both in absolute terms and when converted into the same currency. Nonetheless, the significance of this indicator should not be overrated, since the Prague Stock Exchange index is poorly representative of the weights of the individual sectors in the economy and moreover is strongly influenced by just

CHART II.20
Long-term yields
(10-year maturity; %)



Source: CNB

CHART II.21
Yield spreads for CEE government euro-denominated bonds
(%)

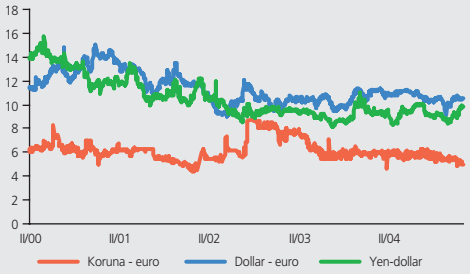


Source: CNB

CHART II.22
Prague Stock Exchange equity index

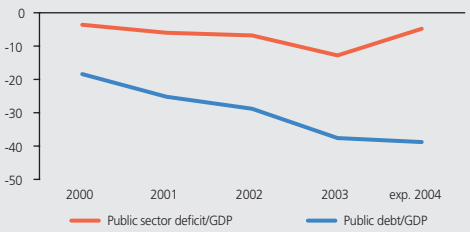
Source: BCPP

CHART II.23
Implied volatility (one-year) on the foreign exchange market (from currency options)



Source: CNB

CHART II.24
Public sector deficit and public debt
(ESA 95 method; % of GDP)



Source: CNB

TABLE II.1
Government sector deficits
(ESA 95; % of GDP)

	2003	2004	2005	2006	2007
Czech Rep.	12.6	4.8	3.9	3.2	3
Hungary	5.9	4.6	4.1	3.6	3.1
Poland	4.1	5.7	4.2	3.3	1.5
Slovakia	5.8	4.8	3.9	3.2	2.1
EU12	2.7	2.3	1.8	1.2	0.7

Source: CNB, EC

a few specific issues (Erste Bank, ČEZ, Komerční banka and Český Telecom account for about 80% of the PSE's market capitalisation).

Turbulence in the foreign exchange market poses a potential risk to financial stability. However, according to the available indicators, the market does not expect large fluctuations in the next few months. The volatilities implied by prices of currency options for the main currency pairs were falling. In particular, the koruna's volatility against the euro remains low both by historical standards and relative to other floating currency pairs.

Risks

The risks to the future balanced evolution of demand and the monetary and financial conditions stem primarily from uncertain external developments and the intensity of counteracting effects. On the one hand, the rise in prices of energy-producing resources and other commodities represents a cost shock which has yet to pass through into domestic prices. These inflation pressures could, however, be contained by effects associated with the negative impacts on world economic growth and on demand for Czech goods and services. A slowdown in European export growth could pose a similar risk in the case of a more marked appreciation of the euro against the dollar. The expected pick-up in wage growth in the non-business sector in 2005 is a possible domestic source of uncertainty. Although the short-term effect of this trend on prices need not be significant, in the longer term it could lead to a rise in demand-pull and wage-cost inflationary pressures. A rise in commodity prices and wage costs would also have adverse effects on the financial position of corporations, thereby increasing credit risk in the economy. The potential negative fiscal impacts of a pick-up in wage growth in the public sector should not be overlooked either.

In the medium to long term there is no guarantee that the spreads of Czech government bonds against international benchmarks will remain at their current low levels. Owing to budget deficits the government debt is growing rapidly, even in the present growth phase of the economy. Unless public finances are consolidated and the social spending system is reformed, rising indebtedness will present a substantial risk. This is one of the reasons why budget consolidation is one of the declared priorities of the present government. However, the planned budget deficit reduction over the next few years is slow compared to other new EU member states. In addition, the specific form of the fiscal policy reform is not known yet. This situation is reflected in the Czech Republic's rating. S&P has downgraded its koruna long-term debt rating three times since 1998, from the original AA to the present A. The last downgrading, in September 2004, was justified by the size of the government budget deficits and scepticism regarding any future reduction.

Should this view prevail, it would probably result in a rise in the risk premium and higher government financing costs. In addition, the volatility of the exchange rate could increase. This would lead to a deterioration of the business environment and hence a greater risk to financial stability. In addition, the postponing of the necessary reforms has other negative effects, since it increases the uncertainty regarding future tax levels and the size and structure of government expenditure and government-stimulated demand. This makes long-term financial planning even more difficult for corporations and households and increases the probability of wrong investment decisions. Last but not least, debt growth and higher debt service costs will limit the future budget policy options for macroeconomic stabilisation, which means potentially greater business cycle volatility.

3 THE CORPORATE AND HOUSEHOLD SECTORS

The credit ability of the private non-financial sector improved in line with the improving macroeconomic indicators. This improvement was fostered mainly by the easy monetary conditions associated with the lowest-ever interest rate level and, compared to 2002, the Czech koruna's weaker exchange rate against the euro. The improving global growth outlook also meant considerably better export opportunities for domestic corporations. A positive role was also played by factors of a more systemic nature, linked, *inter alia*, with the earlier positive effects of foreign direct investment and ensuing improved corporate management, and with new risk management systems brought in by the foreign owners of domestic banks. These, along with other factors, facilitated the development of lending in areas which had previously been neglected by banks (lending to households).

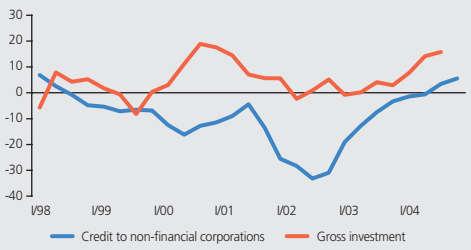
Although an improvement in the financial soundness of the domestic non-financial sector emerged at the start of 2003, its impacts on lending activity were limited and lagged and in most sectors were not felt until 2004. The exception was lending to households, whose year-on-year growth rates were high throughout the period, thanks chiefly to the aforementioned systemic factors. The linkage between lending to households and household consumption was quite weak up to mid-2002, but since then has become stronger.

By contrast, lending to non-financial corporations was flat or falling year on year up to 2003. In public non-financial corporations, this was due to generally worse economic performance, whereas in foreign controlled corporations domestic resources were replaced by foreign funds obtained directly from their owners. Lending to small businesses is being hampered by information asymmetry and by the fact that this sector has the highest proportion of bad loans. Within the corporate sector, private domestic corporations are contributing most to credit growth, but even they are being constrained by persisting information asymmetry and a still short credit history. The massive declines recorded in 2001–2002 were also due to transfers of bad loans from banks to the Czech Consolidation Agency. Despite this, we can detect pro-cyclical, slightly lagged corporate lending behaviour. Another factor underlying the slowdown in lending was the use of alternative sources of financing by corporations (see the box *Corporate Financing Alternatives* for details).

Box
Corporate Financing Alternatives

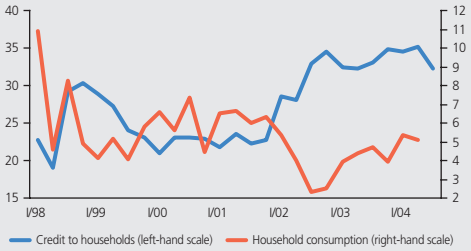
Bank loans are just one of the corporate sector's financing options. The others are:
- *internal funds*, the level of which is determined by the economic performance of corporations themselves;
- *foreign loans to corporations* – in 2003 these rose by CZK 28 billion to CZK 519 billion. FDI loans grew more slowly than other foreign loans extended to corporations;
- *intercompany debt* – at CZK 720 billion this far exceeds bank loans to corporations (by 68%). Intercompany debt in corporations with 100 or more employees comprises long-term and short-term liabilities, including past-due liabilities; it is usually forced trade credit and also includes funds obtained from abroad;
- *financial leasing* is chiefly geared to the corporate sector (only around 10% goes to natural persons). In 2003, leased property amounted to CZK 173 billion, representing a ratio of 40% in relation to bank loans;
- *issues of corporate bonds and equities* are used only infrequently owing to

CHART III.1
Credit to non-financial corporations and investment
(year-on-year change in % in nominal terms)



Source: CNB, CZSO

CHART III.2
Credit to households and household consumption
(year-on-year change in % in nominal terms)



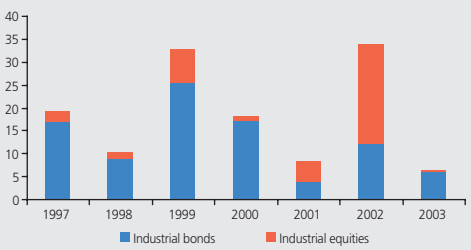
Source: CNB, CZSO

TABLE III.1
Growth of credit to the private non-financial sector
Contributions of sectors
(p.p. to total year-on-year growth)

	IV/01	II/02	IV/02	I/03	II/03	III/03	IV/03	I/04	II/04	8/04
Public	-5.2	-5.0	-0.7	-0.3	-1.3	-0.7	-1.1	-1.1	0.1	-1.1
National private	-18.7	-20.6	-11.7	-9.0	-6.5	-2.4	0.8	1.7	4.2	4.2
Foreign controlled	0.7	-2.3	-2.0	-0.4	1.8	-0.1	-0.6	-0.8	-1.7	0.5
Trades	-0.5	-1.1	-0.2	0.2	0.4	0.0	0.5	0.2	0.4	0.3
Households	2.5	3.5	6.1	6.4	6.9	7.8	8.8	8.9	10.2	9.9
Credit, total	-21.2	-25.5	-8.5	-3.1	1.2	4.6	8.5	9.0	13.2	13.7

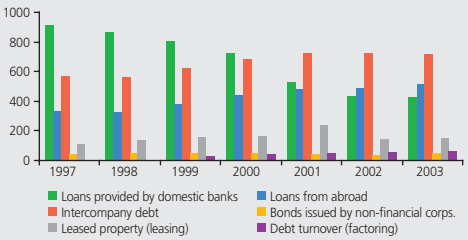
Source: CNB

CHART III.1.BOX
New issues of corporate bonds and equities in the given year
(CZK billions)



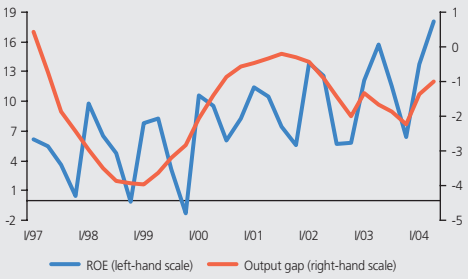
Source: KCP

CHART III.2.BOX
Corporate financing alternatives (illustrative survey)
(CZK billions)



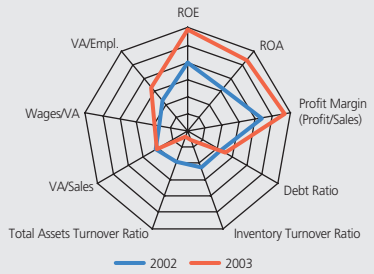
Note: Intercompany debt (including trade credit from abroad) and bonds are for corporations with 100 or more employees. Since 2001 leased property in net value after tax.
Source: CNB, CZSO, MIT, ALS, AFS

CHART III.3
Cyclicality of corporations' return on equity
(%)



Source: CNB, CZSO

CHART III.4
Key financial indicators for non-financial corporations
(2001=100; index > 100 - improvement; index < 100 - deterioration)



Note: Scale from 80 to 140 in steps of 10. No data on short-term liabilities were available for the liquidity indicators, so data on total liabilities were used.
Source: CZSO, CNB calculation

the underdevelopment of the capital market and also to lower demand. In 2003, new issues of securities totalled CZK 6 billion, and there were no new issues in 2004. Corporations used funds totalling CZK 49 billion from previous years' issues;

- *factoring and forfaiting* – these alternatives supplement the market and do not generally compete with bank credit. Turnover of purchased receivables was CZK 64 billion in 2003, a rise of 40% on a year earlier.

Through their subsidiaries, banks also provide forms of financing other than bank credit to the corporate sector. Within banking financial groups they cover 39.8% of leasing transactions and 63.5% of factoring transactions.

3.1 NON-FINANCIAL CORPORATIONS

The pick-up in economic growth brought about an improvement in virtually all indicators for non-financial corporations. In line with theoretical assumptions, return on equity (ROE[1]) has been pro-cyclical, especially recently. This indicator is meanwhile more volatile than GDP growth itself (or the output gap). Furthermore, there is a clear upward trend in ROE over time which is higher than the output gap "trend".

The financial indicators improved in both 2003 and 2004 H2, with profitability indicators[2] showing the largest improvement. ROE rose from 9.7% in 2002 to 11.2% in 2003 and on to 15.9 % in 2004 H1; return on assets (ROA)[3] increased from 10.5% (2002) to 12.5% (2003) and 14.6% (2004 H1); and the profit to sales ratio[4] rose from 5% (2002) to 5.5% (2003) and 7.3% (2004 H1). In 2003, corporations used this profitability improvement to restructure their balance sheets, both on the asset side (improved liquidity indicators[5]) and on the liability side, where the debt ratio[6] was reduced (from 49.1% at end-2002 to 48% at end-2003) and the average maturity of loans[7] was extended, leading to a reduction in the sensitivity of corporate financial costs to changes in short-term interest rates. The reduction in indebtedness, together with the fall in interest rates to a historical low, generated a fall in debt servicing costs. On the other hand, 2003 saw some deterioration in asset turnover indicators.[8] This, however, may have been due to stocking up by corporations in expectation of faster growth in 2004. Productivity growth outpaced wage growth, even though the latter was relatively high. Around 70% of the productivity growth was attributable to a rise in output per employee and about 30% to a decline in the number of employees.

The indicators continued improving in 2004 H1, again being driven by higher profitability. Compared to 2003, there was an improvement in asset turnover

1 Return on Equity = Earnings before Taxation/Equity.

2 The profitability indicators are recalculated on an annual basis to allow comparison of quarterly, semi-annual and annual data. The quarterly data on profit are multiplied by four and the semi-annual data by two.

3 Return on Assets (ROA) = (Earnings before Taxation+Depreciation+Interest Expenses)/Total Assets.

4 Profit to Sales Ratio (or Profit Margin) = Earning before Taxation/(Sales of Goods+Sales of Own Production).

5 Current Ratio = (Financial Assets+Inventories+Receivables)/Liabilities; Acid-test Ratio = (Financial Assets+ Receivables)/Liabilities; Cash Ratio = Financial Assets/Liabilities.

6 Debt Ratio = Liabilities/Total Shareholder's Equity and Liabilities.

7 The share of short-term loans (with maturity of up to one year) to non-financial corporations fell from 44.1% at end-2002 to 39.8% as of 31 August 2004; the share of medium-term loans (with maturity of 2–5 years) increased from 23.3% to 25.4%; and the share of long-term loans rose from 32.7% to 34.8%.

8 Inventory Turnover Ratio (in days) = Inventories/Sales*360, Average Collection Period = Receivables/Sales*360, Total Assets Turnover Ratio = Assets/Sales*360.

indicators (the stock turnover ratio decreased by 1.9 days to 42.9 days). On the other hand, the corporate debt ratio increased slightly (from 48% at end-2003 to 48.5% as of 30 June 2004), but this increase is not yet very significant and reflects an upswing in investment as well as in lending activity.

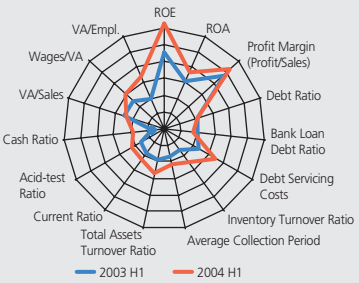
A more detailed insight into the impact of corporate financial indicators on credit risk could be obtained from information on the distribution of these indicators across individual companies or groups of companies. In terms of the financial stability of the domestic financial sector, the improved average results might conceal problems in one part of the corporate sector. This might be true for the Czech corporate sector, whereas the domestic financial sector's exposure to foreign controlled companies, where the best financial results can be expected, tended to decrease. Comparisons of the condition of medium-sized (20–99 employees) and large (more than 100 employees) enterprises are complicated by a narrower range of reported indicators for the former category (for example a profitability indicator is lacking). The distribution of the indicators for which a comparison is possible (for example the value added-wages ratio) indicates a better situation in large corporations (a higher median), but a greater spread of the distribution of their economic results.

The distribution of the profitability results for large corporations according to the main NACE categories has recorded a shift to the right. It also shows a double-peak (or even triple-peak) character. This might be interpreted as a legacy of unresolved structural problems in Czech industry, which persist in parallel with the markedly positive development of some corporations (especially foreign ones) resulting from higher FDI in the past. The FDI has not gone into sectors where these structural problems exist. The essential question in this "two-speed" corporate sector is whether structural changes in the domestic corporate sector will lead to a closing of the performance gap between sectors dominated by foreign owners and sectors dominated by domestic owners, or whether this gap will persist. The distribution of economic results suggests that some heterogeneity also exists among domestic corporations, as some of them are showing improved profitability, although they remain less profitable than foreign corporations. However, only marginal improvements have been recorded in the least profitable sectors (those with ROEs of less than 5%, e.g. the leather industry, agriculture and the public sector).

All this is partly confirmed by the profitability developments in the main economic sectors. One positive phenomenon in 2004 H1 was the fact that profitability improved not only in foreign private corporations, but also in domestic private corporations, despite a fall in their profitability in 2003 Q4. The profitability of public corporations remains very low, but their influence on the economy is gradually waning.

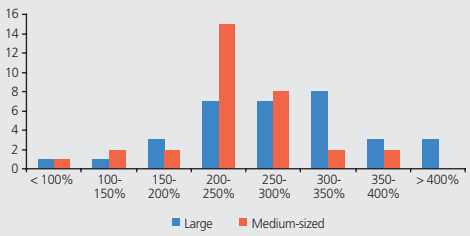
The question remains whether the improved corporate sector indicators are actually translating into improved credit risk indicators within the financial system (especially the banking sector). The available data confirms a link between ROE and the share of classified loans in the overall volume of loans across the NACE categories.[9] This link has been proved for the ratio of classified loans to total loans, the ratio of non-performing loans to total loans and the weighted classification ratio. On the other hand, the link between change in profitability and change in the number of units in NACE categories is not statistically

CHART III.5
Key financial indicators for non-financial corporations
(2001=100; index > 100 - improvement; index < 100 - deterioration)



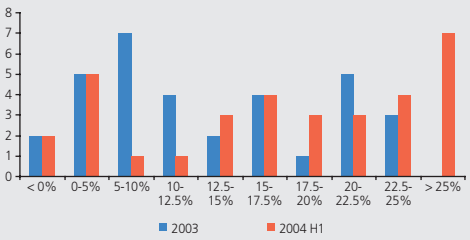
Note: Scale from 80 to 140 in steps of 10.
Source: CZSO, CNB calculation

CHART III.6
Distribution of value added-wages ratio for large and medium-sized enterprises
(2004 H2)



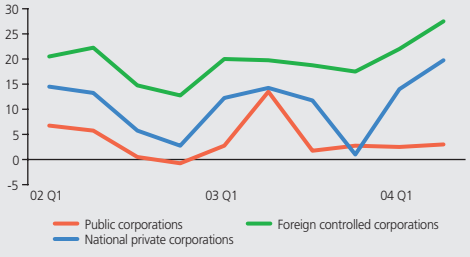
Source: CZSO

CHART III.7
Change in ROE distribution for large enterprises
(> 100 employees)



Source: CZSO

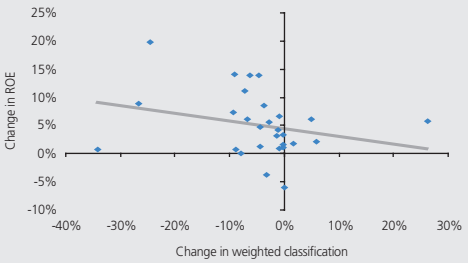
CHART III.8
Profitability (ROE) by main sectors
(%)



Source: CZSO

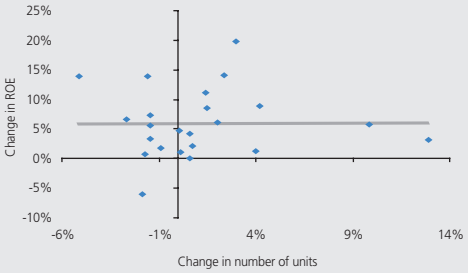
9 However, the improvement in loan portfolio quality is largely due to flat lending to the corporate sector in recent years.

CHART III.9
Changes in profitability vs changes in loan classification
(by NACE category; in p.p. as of 30 June 2004)



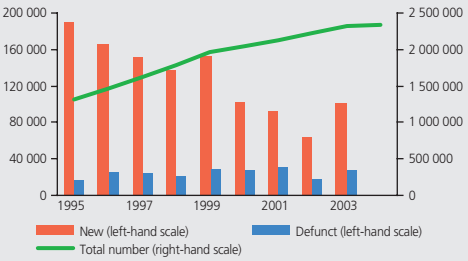
Source: CZSO

CHART III.10
Changes in profitability vs changes in number of units
(by NACE category; changes in p.p.)



Source: CZSO

CHART III.11
Numbers of businesses (new, defunct and total number)
(according to Business Register)



Source: CZSO

significant. This conclusion is in line with the findings of previous studies[10] using CZSO financial indicator data on individual companies, which showed that the link between the probability of a corporation's dissolution and its financial results also has low statistical significance.

The weak link between change in profitability and change in the number of active economic agents suggests that elimination mechanisms to remove unsuccessful corporations are still not fully functional in the economy. A general lack of good-quality data from this area[11] and the weak link between corporate financial indicators and corporate credit risk thus significantly heighten the uncertainty in interpreting this credit risk. If there is a weak link between the standard indicators and a corporation's ability to repay its loans, then even advanced credit risk models adopted from abroad have limited effectiveness.

Another reason for the weak link between the dissolution of economic agents and their financial results is the trend in the total number of economic agents according to the CZSO's Business Register. This number has been increasing steadily and has almost doubled since the mid-1990s. The available data does not so far show any evidence of the fall in the number of entrepreneurs which was expected following the tightening of the conditions for their business activity in 2004 H1 (the introduction of cash registers, a minimum tax, etc.). The growth in the number of entities in the register has merely slowed. A significant increase in the number of businesses, even if it is due to an improved business environment, could have an adverse impact on financial stability, and specifically on small and medium-sized enterprises' ability to borrow. This is linked to the short financial history of these entities and to the ensuing complications in assessing credit risk. Nevertheless, the slower growth in the number of new economic agents in the register has fostered an improvement. At the end of the first half of the 1990s, roughly one-quarter of corporations were less than two years old, compared to less than 10% at present.

Although the overall situation in the corporate sector has improved from the point of view of financial stability, some risks persist. We have already mentioned the risks connected with the problem of interpreting the link between improved corporate results and the probability of corporations' survival, which have been present throughout the transformation period. These risks are also linked with certain institutional problems in the Czech economy – generally low debt enforceability, excessively long bankruptcy proceedings, slow operation of the courts, persisting corruption and so on.

Growing intercompany debt is another risk to the corporate sector as a whole (see the box *Corporate Financing Alternatives*).

Another risk relates to the high openness of the Czech economy. Corporate statistics reveal that the share of exports in corporate sales is 30.6% and the share of imports in costs of sales is 32.7% (data for 2004 Q2). The high openness

10 For studies on medium-sized enterprises in 1999, see, for example, Hlaváček J., Hlaváček M.: "Porovnání přežívajících a zanikajících podniků v české ekonomice na konci 90. let", in Finance a úvěr, 9/2002, 502. For studies on large enterprises in 1999–2001, see Hlaváček M.: "Nestandardní modely pro rozhodování a vyjednávání ekonomických týkající se ekonomických informací" (Chapter 5), dissertation at the Institute of Economic Studies, Faculty of Social Sciences, Charles University.

11 Most commercial banks have good enough data on the corporations that borrow from them. There is, however, a persisting problem in that this data can be difficult to compare with data on corporations that have either not applied for credit or applied unsuccessfully (for various reasons). *Ex post* assessment of the success of credit risk models thus only reflects the first-order errors, i.e. whether the bank provided a loan which eventually proved bad. Second-order errors, i.e. where the bank denied a loan to a company that is now prosperous and would be able to repay without problems, cannot be determined by the bank.

of the Czech corporate sector (including its ownership structure) means greater sensitivity of corporate financial indicators to exchange rate developments. Adverse effects can potentially arise from an appreciation (impacts on competitiveness) and from a significant depreciation (or expectations thereof, in which case foreign owners would increasingly transfer their high profits back home). Although some studies have pointed to a surprisingly low sensitivity of foreign trade to the 2002 appreciation shock, and although corporate profitability reached a solid level that year, recording a year-on-year improvement, it is not certain whether this was due solely to the aforementioned one-off improvements of a mostly institutional nature (better management thanks to foreign owners). It remains an open question whether these factors have already unwound and thus whether the corporate sector's sensitivity to exchange rate movements has been renewed. On the other hand, we should add that the impacts through exports and the impacts related to the change in behaviour of foreign owners may offset each other to some degree.

The high openness of the Czech economy also means a high dependence on foreign economic growth. In this context, the risk arising from high prices of oil and other raw materials (iron and nonferrous metals) have lately become particularly significant. These could directly affect the financial results of certain industries (transport, manufacture of transport equipment, etc.), and what is more, a slowdown in global economic growth could have an adverse effect on the corporate sector as a whole.

In addition to a downturn in economic growth, the possible negative supply shock resulting from further oil price growth would lead to a pick-up in inflation. This could result in a tightening of the domestic monetary conditions. Although stress tests have shown that the banking sector has a relatively strong resistance to a shock resulting from an interest rate increase (see Annex 1), some degree of risk does exist.

In the context of possible interest rate increases, we must mention the negative impacts of the public finance deficits. Their high level is adversely affecting the Czech Republic's credit rating and hence the level of interest rates on loans to private corporations. High government expenditure also implies a need for high corporate taxation, which may lead to transfers of foreign capital to countries with lower taxation and consequently to constraints on sources of corporate financing and to exchange rate volatility. The negative impacts of the high public budget deficits are bolstered by the expenditure structure, as most expenditure is mandatory (social benefits, retirement pensions, etc.) and insufficient resources are left for spending that positively affects the condition of the corporate sector (expenditure on infrastructure, research and development, education, etc.).

3.2 HOUSEHOLDS [12]

Loans to households have been the fastest-growing item of lending by the domestic banking sector in recent years. Their annual growth has exceeded 30% for more than two years (see section 4). Loans to households are thus the largest contributors to the total annual growth in loans to the private non-financial sector. The fast growth in lending to households could itself mean an increased

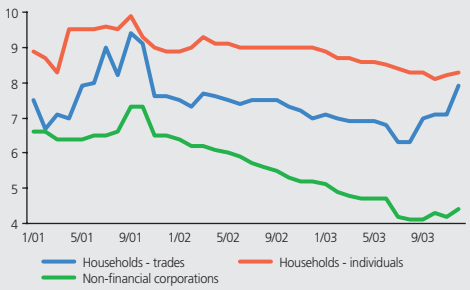
12 The "Households" statistical category comprises two subcategories: "Households – trades" and "Households – individuals". These two subcategories are very heterogeneous (for instance, there are differences in the proportion of classified loans – see section 4). Loans to sole traders are thus closer in nature to loans to non-financial corporations. In the following section, we will focus on the subcategory of loans to individuals.

level of risk in the financial sector, as this is a new product in the Czech financial market. Estimates of the probability of default for individual households are thus very complicated, owing to the relatively short existence of the credit register and the absence of debtors' credit history.

From a purely statistical point of view, the share of classified loans in total loans to households may be somewhat underestimated in a period of fast growth in loans to households. This can occur because of the relatively long maturity of these loans and the fact that new loans are generally classified as standard. New loans will thus "dilute" past classified loans. Later on, when loans to households have stabilised, the share of classified loans may show an autonomous increase.

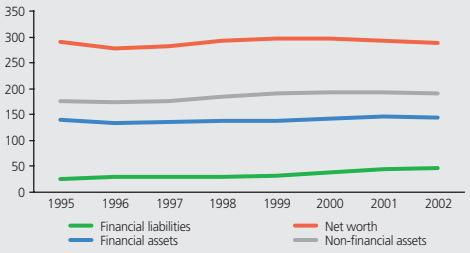
The main reasons for the robust rise in loans to households include:
- a low initial base, together with transfer of technology and new banking products from new foreign owners;
- a decline in the interest of newly privatised corporations in resources from domestic banks, which has forced banks to seek new places to allocate funds from deposits;
- falling interest rates, which have led to a rise in households' demand for credit;
- the comparative benefits for banks of lending to households, as interest rates on loans to households have responded to the drop in money market interest rates to only a limited extent, which has led to a rise in margins;
- a reaction to the development of competing non-bank loans to households (the fastest growth in non-bank loans to households was recorded in 2000, whereas bank loans to households grew fastest in 2002 – see the box *Investment and Borrowing Alternatives for Households*);
- a change in lifestyle, demographic factors (housing financing by the 1970s generation), changes in the state's housing support policy (support for lending and building savings schemes instead of state-organised residential property building), real wage growth, a flat/falling price level, tax privileges on building savings schemes and mortgage loans, reactions to expected tax changes (an expected increase in VAT on construction work from 5% to 19% in 2007);
- the lower risk connected with these loans – despite a deterioration in the share of classified loans, loans to households remain the lowest-risk loans in the private non-financial sector;
- the foundation of a register of natural persons' loans and better possibilities of recovering loans from natural persons.

CHART III.12
Interest rates by sector
(on total loans; % p.a.)



Source: CNB

CHART III.13
Shares of households' assets and liabilities in their net disposable income
(CZK billions)



Source: CZSO, CNB calculation

Despite the frequently discussed dramatic rise in the rate of growth of loans to households, these loans currently have a relatively low share in households' overall balance sheets by comparison with asset items. The volume of financial liabilities on households' financial accounts has risen (and is now almost three times that in 1995)[13] and their growth rate exceeds that of other items in households' financial accounts. However, their volume is negligible compared to financial and non-financial assets. Households' total assets (financial and non-financial) are still more than seven times higher than their financial liabilities.

As indicated in section 4, households use loans primarily to finance property purchases. These loans account for more than 70% of total loans to households. The sensitivity of household consumption to household credit growth was quite weak until 2002. Consequently, there is no change in total net worth in the

13 Households' financial liabilities rose by 187.8% between 1995 and 2002. Significant growth can be expected to have continued in 2003. As shown in Chart III.13, this rise is partly offset by disposable income growth of 60.8%.

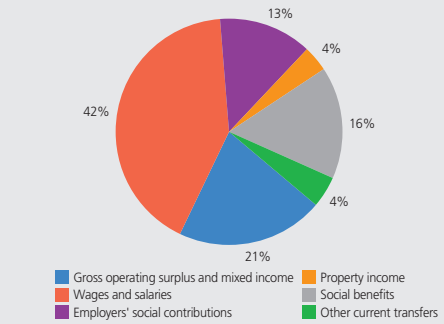
overall balance sheets (assuming that prices are stable on both the asset and liabilities sides); there is only a rise in total assets and total liabilities. This is reflected in a higher sensitivity of net worth to property prices. Property prices are discussed in section 4.3.

Households' ability to repay loans is chiefly influenced by their disposable income.[14] Disposable income depends on aggregate output, the income balance and the activities of the government (above all taxation of households and distribution of transfers, but also housing loan support and suchlike). The current economic recovery is thus fostering a fall in credit risk in the household sector. The dependence of households' ability to repay loans on disposable income also determines the major risks. On the resources side, the main components of disposable income are wages and employers' social contributions. The shares of social benefits (around 20%) and property income (interest, dividends, etc. – 5%) are also important. The primary risks to disposable income are low wage growth and declining employment (or rising unemployment, or a falling rate of economic activity). Growth in overall wages must be consistent with labour productivity growth, otherwise the risk would merely shift from households to the corporate sector. However, recent trends in the corporate sector indicate that labour productivity is growing at a satisfactory pace (see section 3.1). There is a risk of redistribution of value added from wages to earnings, especially if foreign employers transfer their earnings abroad on a larger scale.

Uncertainty surrounding the public finance reform is another persisting risk to disposable income. Although reform is inevitable from the point of view of overall macroeconomic stability, its short-term impacts on households' balance sheets may pose certain risks to financial stability. This might happen above all in the case of households with lower and middle incomes, as it is not certain whether they know what proportion of their income comes from redistribution. On the other hand, high public finance deficits have adverse effects on households' disposable income, just as they have on corporations, primarily through high taxation.

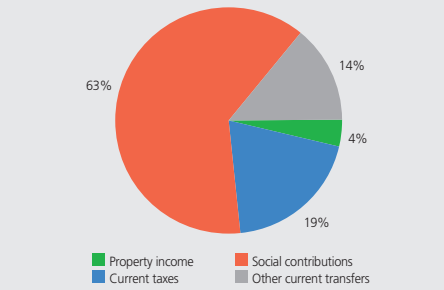
Interest paid and received is a specific factor in the formation of disposable income. Although households' financial liabilities are still much lower than their financial assets,[15] total payment of interest on loans is already about twice the sum of interest received on deposits. The relationships of households to the financial sector as a whole thus imply adverse effects on disposable income. The share of interest expenditure in gross disposable income slightly increased in 2003 and 2004 H1. In addition to an overall increase in indebtedness, the crucial difference by comparison with the situation in 2000–2001, when households' interest income was higher than interest paid, lies in a widening of the spread between the interest rate on deposits and the interest rate on loans (see section 4). Interest rates on loans to households remain high compared to other sectors (non-financial corporations, financial institutions, government, trades, etc.).[16] This may be due to relatively high concentration in this market segment (in mid-2004, the Herfindahl index was 0.16 for loans to households, compared to 0.11 for total loans and 0.14 for total deposits).

CHART III.14
Structure of households' current income
(2003)



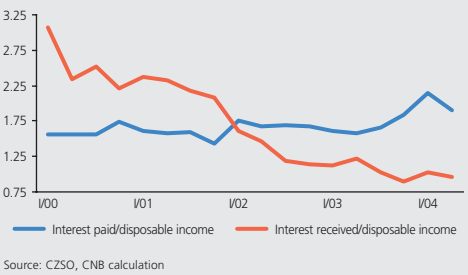
Source: CZSO

CHART III.15
Structure of households' current expenditure
(2003)



Source: CZSO

CHART III.16
Shares of interest received and paid in disposable income
(%)



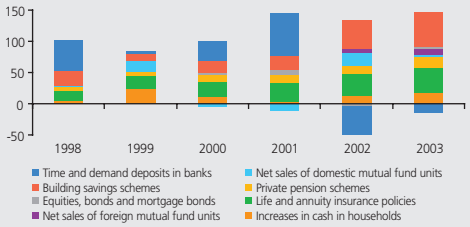
Source: CZSO, CNB calculation

14 Disposable income indicates the volume of resources available to households for consumption and saving, i.e. income available to households for repaying their liabilities (here, the repayment of a liability is regarded as part of saving). Disposable income is defined as households' current income minus households' current expenditure. Households' current expenditure thus does not include household consumption.

15 The ratio of financial liabilities to financial assets is 32.1% and the ratio of loans to cash and deposits is 22.5% (end-2002 data).

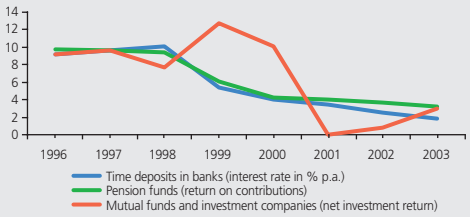
16 In mid-2004, interest rates on the stock of loans were 8.1% for households and 4.5% for non-financial corporations. There was, however, a difference within the household sector between interest rates on consumer loans (15%) and interest rates on housing loans (6.1%).

CHART III.3.BOX
Allocation of households' deposits and savings
(increases in given year in CZK billions)



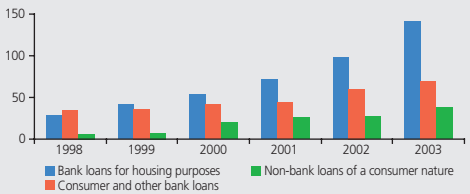
Source: CNB, CZSO, UNIS, AKAT

CHART III.4.BOX
Comparison of alternative forms of investment by households
(%)



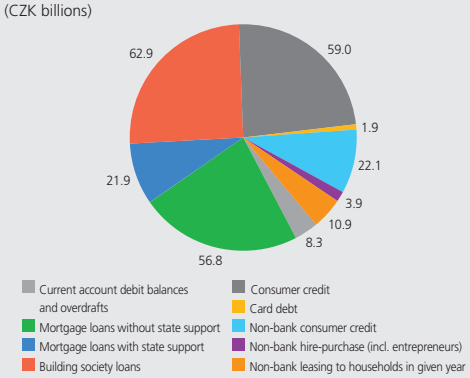
Source: CNB, CZSO

CHART III.5.BOX
Bank and non-bank loans to households
(CZK billions)



Source: CNB, ALS

CHART III.6.BOX
Bank and non-bank loans to households in 2003
(CZK billions)



Source: CNB, ALS

Box
Investment and Borrowing Alternatives for Households

Besides the various interest yields, clients also weigh up the benefits of state contributions to pension schemes and building savings schemes and the benefits of employers' contributions to pension schemes and annuity insurance policies when considering the range of alternative investments open to them.

A decline in the number of time deposits was apparent in 2002 and 2003 as interest rates on such deposits in banks fell. The outflow went mainly in the direction of building savings schemes, life and annuity insurance policies and pension schemes.

Turning to loans to households, particularly strong growth has been recorded in recent years by housing loans, i.e. mortgage loans (with or without state support) and building society loans. Growth in bank consumer loans, which compete with non-bank consumer loans, hire-purchase and leasing for households, has recently slowed somewhat.

3.3 PROPERTY PRICES

Property prices play an important role in the assessment of household credit risk. Loans to households which are used to finance property purchases or property construction or which are secured by property account for almost three quarters of total loans to households (71.6%). In the last three years this share has risen by 16.2 percentage points. The volume of housing loans is also closely linked to housing construction.

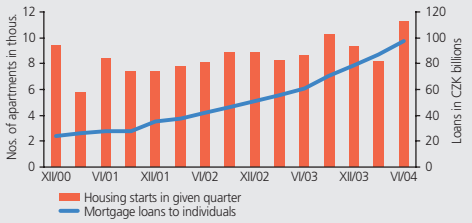
A risk arising from property price movements is associated with housing loans.[17] A decrease in the market value of a property negatively influences the amount of a newly provided loan for which the property is used as a pledge. It can also cause a loss in the event of a forced sale at a price lower than the purchase price. In the Czech Republic, this risk is reinforced by the imperfect and slow operation of the relevant institutions (the cadastral registry, courts, etc.), which may mean additional risks or costs in the event of a sale of the pledge/property.

Some debtors may have opted to use a mortgage loan to purchase property as an investment. The value of the investment is influenced by movements in prices and interest rates and also by the rents that can be asked. In the event of an overall increase in the price of money, reflected in a rise in mortgage interest rates, rents may not cover the full amount of the instalments and owners may start selling flats, thus exerting downward pressure on property prices. As indicated in the box *Property Price Determinants*, a large part of the property price growth between 2000 and 2003 was probably not speculative.

Data on property transfer prices obtained from property transfer tax returns suggest that prices rose for all types of property between 1998 and 2002. The lowest increase was recorded for building plots (around 30%), followed by family houses (around 50%), apartments (more than 70%) and apartment blocks (which almost doubled). The annual price growth generally tended to increase, but there was a slowdown in 2000 and at the end of 2002.

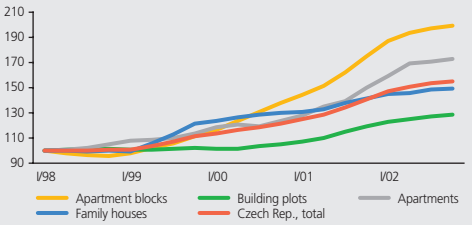
As the more up-to-date figures on supply prices in estate agencies indicate, the relatively fast property price growth continued into 2003, with apartment prices rising by around 27%. Speculation on further spiralling growth in property prices following the Czech Republic's accession to the EU did not materialise, as property prices in the spring partly corrected their growth of 2003 and 2004 Q1 and fell by roughly 5%. Subsequently, prices have risen modestly and are now around their end-2003 level. The current stagnation and possible further decline in the prices of some properties may also be related to interest rate growth.[18] Conversely, however, some other factors indicate renewed modest growth in the prices of residential and non-residential properties. These factors include, in particular, constant demand for high-quality housing, the planned introduction of loans for newlyweds and the entry of foreign and domestic real estate funds onto the market.

CHART III.17
Mortgage loans and construction of new apartments



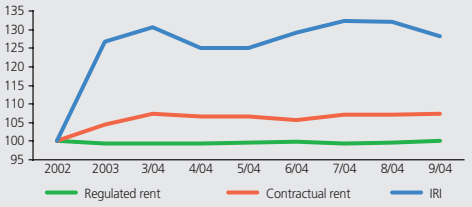
Source: CNB, CZSO

CHART III.18
Property prices - transfer prices according to tax returns
(absolute index; 1998 Q1 = 100)



Source: CZSO, CNB calculation

CHART III.19
Apartment supply price index vs rents
(Institute for Regional Information, figures from estate agents; 2002 = 100)

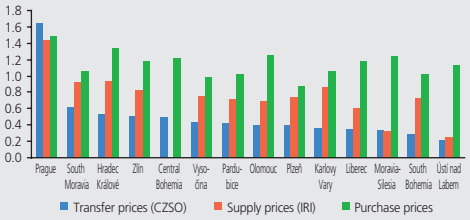


Source: IRI

17 In the following text, we will differentiate between the following types of property prices: **property transfer prices**, based on the Ministry of Finance statistics from property transfer tax returns and published by the CZSO. These prices are the closest to actual **market prices** in terms of methodology. There are also **property supply prices**, which indicate property sale supply prices in estate agencies and are published by the Institute for Regional Information. Supply prices should be higher than transfer prices. Another category is **property purchase prices** (provided by the CZSO), which broadly indicate the cost of building new property. The last category is **hypothetical property prices**, which are calculated from market rents (from the CZSO's consumer price statistics) and long-term interest rates. Hypothetical property prices implicitly regard real estate as a type of asset that is a substitute for financial assets (for details, see the box *Property Price Determinants*).

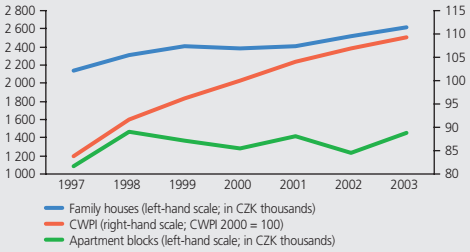
18 A description of the relationship between property prices and interest rates is outlined in the box *Property Price Determinants*.

CHART III.20
Property price distribution by region
(2002; 68 m² apartment; CZK millions)



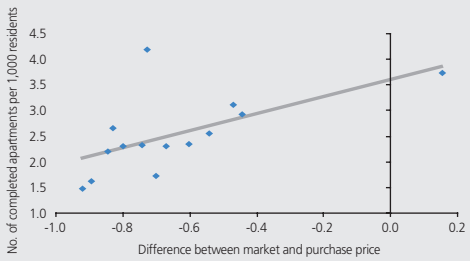
Source: CZSO, IRI

CHART III.21
Apartment purchase prices vs construction work price index



Source: CZSO

CHART III.22
Housing construction intensity vs difference between market and purchase prices of apartments
(by region; prices in CZK millions; year: 2002, apartments 2003)



Source: CZSO

When assessing credit risk it is also important to evaluate the distribution of property prices by region and to relate these prices to property purchase prices. Property purchase prices that are substantially higher than market prices might imply a risk of an incorrect initial credit risk assessment, especially for those housing loans which are used to build new properties rather than to purchase existing real estate. In the Czech Republic, the property price spread with respect to region is quite large, the highest prices being in Prague (with Brno in South Moravia and the Hradec Králové region being a distant second and third respectively) and the lowest being in the Ústí region. As expected, property supply prices in most regions are indeed higher than actual transfer prices. The differences range from 30% to 60% of supply prices. Prices in Prague and the Moravia-Silesia region are the exceptions.[19]

Because loans guaranteed by property are used to build property, it is also important to monitor the relationship between the distribution of property prices (both transfer prices and supply prices) and the distribution of property purchase prices (i.e. building prices). Although prices in Prague are again the highest (mainly owing to higher building plot prices), the regional differences in purchase prices are much lower. In all regions except Prague, purchase prices are higher than market prices (in most regions, market prices are less than one-half of purchase prices). This can be explained by the fact that the building price is determined by cost factors (e.g. by construction work prices[20]) to a larger extent than market prices.

If housing construction was concentrated in regions with higher differences between supply prices and market prices, this would imply some degree of credit risk (banks would provide loans for property purchases, but if the client's payment discipline was bad, they would collect the pledge at a much lower market price). However, data on housing construction, which can be used to proxy the breakdown of housing loans by region, indicates that housing construction is concentrated more in those regions where this difference is lowest,[21] thereby reducing this risk somewhat.

Box
Property Price Determinants

Although the properties included in the aforementioned indices are used by their owners primarily for personal residential purposes, the view has been expressed that the end-2003 rise in property prices was speculative and related to the Czech Republic's accession to the EU and the expected relaxing of restrictions on property purchases by foreign natural persons.

These two hypothetical subcategories[22] of loans for financing property purchases, i.e. loans to cover owners' personal housing needs and loans to

19 This may be due to statistical imperfections, possible differences in the wear and tear of flats in individual regions, or disproportionate price developments in Prague (prices in the most expensive parts of Prague are roughly twice as high as those in the cheapest districts).

20 The transmission of these costs into purchase prices has been partially contained. Given the limited share of housing construction in the total number of flats and houses, property market prices are determined more by the relationship of demand to the existing stock of flats/houses than by these costs.

21 The Central Bohemian region is an exception because of its very specific link to Prague. Housing construction in this region is more intensive (especially with respect to its lower population), but tends to take the form of construction of family houses. Thus the link between existing property prices and newly built property prices is relatively weak.

22 The two subcategories are only hypothetical because in most cases when providing a loan it is not possible to determine whether the property is being purchased for housing purposes or for speculative purposes. There are also property purchases that lie on the borderline between these hypothetical subcategories, e.g. when parents buy a flat for their underage child the purchase is speculative until the child comes of age.

cover speculative property purchases, seem to differ significantly in terms of credit risk and sensitivity to external factors. In the case of loans to cover owners' housing needs, housing is a necessary commodity and one can assume that households will try to hold on to their property "at any cost" and will therefore endeavour to repay the loan despite unfavourable movements in other variables (property prices, yields on other assets, market rent, market interest rates, etc.). However, increased credit risk can be expected for loans to cover speculative purchases if unfavourable trends arise.

If a property is regarded as an asset, the return on it needs to be compared with the returns on other assets. In addition to capital return (growth in the price of the property), market rent – which is monitored in the consumer price index (under category 04.111.06 *Category 1 rental flat with two rooms and with contractual rent*) – can be regarded as a return on the property. Assuming zero capital return and constant future rent, and comparing investment in the apartment with investment in long-term government bonds, the price of the property can be estimated (again assuming constant interest rates) using a simple formula for the perpetuity price, in which present and future rents are discounted by the nominal interest rate on long-term government bonds. Thus, the price of the property should equal:

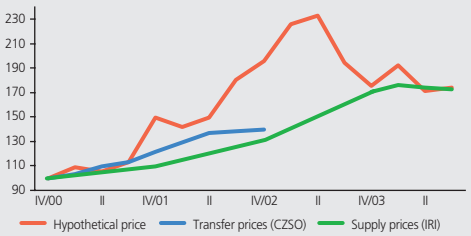
$$P_H = \sum_{k=1}^{\infty} \frac{R}{(1+i)^{k-1}} = \frac{R \cdot (1+i)}{i}$$, where P_H is the price of the apartment, R is the market rent and i is the long-term interest rate on government bonds.

The formula indicates a positive dependence of the property price on market rent and a negative dependence on interest rates.

Data on actual property prices, when compared to "hypothetical" property prices calculated using this formula, indicate that the growth in property prices in recent years can be explained to a large extent by the rise in the market rent index and the decline in long-term interest rates. It would also be possible to link the minor correction in property prices in 2004 to interest rate growth. Actual property prices, however, reacted more to the rise in market rents (in 2001 H2), while their reaction to the interest rate decline (by 3.3 percentage points, or almost 50%, between mid-2001 and mid-2003) was much weaker, as was their reaction to the subsequent interest rate growth (by 1.5 percentage points between mid-2003 and the end of 2004 Q3).

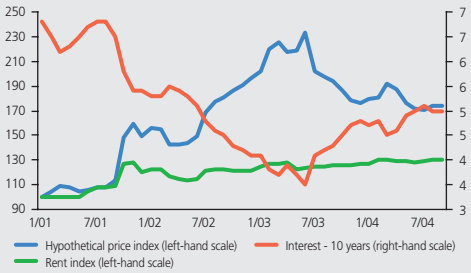
It appears, then, that current property prices are in a state of relative equilibrium. They probably do not incorporate expectations of future radical growth in property prices and are not very sensitive to interest rates (contrary to expectations). However, as "hypothetical" property prices have already reached the level of "actual market" prices, there is some risk of a decline in property prices in reaction to possible further growth in interest rates. There is also some risk related to the difference between contractual rents and regulated rents. Since the beginning of 2001, this difference has risen by around one-third owing to a slowdown in rent deregulation, which is another factor that has fostered growth in apartment prices. Although rent deregulation is inevitable and desirable for the economy as a whole (rent regulation has adverse effects on labour force mobility, wealth redistribution, maintenance of "regulated" apartments, etc.), it might result in a temporary decline in contractual rents, thereby making investment in new property less attractive and reducing the prices of new property.

CHART III.7.BOX
Comparison of prices (CZSO vs IRI and hypothetical price)
(index, 2000 Q4 = 100)



Source: CZSO, IRI, CNB calculation

CHART III.8.BOX
Determinants of hypothetical property prices
(indices, January 2001 = 100, interest in % p.a.)



Source: CZSO, CNB

4 THE FINANCIAL SECTOR

The improvement in the performance and stability of the financial sector continued in 2003 and on into 2004. This trend built on previous changes in the financial field caused by long-term systemic factors. Such factors included the process of privatising large banks and clearing their balance sheets of bad debts by transfer and sale to transformation institutions, which took several years. They also included the transformation of investment funds, linked to the establishment and development of new open-ended mutual funds and the entry of foreign funds into the domestic market. Stability was further enhanced by re-registration and reduction of the number of investment companies, funds and securities dealers. In individual segments of the financial market, activities were concentrated, mergers occurred and some businesses exited the sector due to liquidation. Supervision of the financial markets was bolstered and unified accounting policies were introduced for financial institutions (banks, credit unions, pension funds, investment companies and investment funds and securities dealers, although not insurance companies).

In recent quarters, the stability of the financial sector has been favourably affected by the continuing recovery and improving financial position of the corporate sector. In this environment a turnaround has occurred in lending to corporations and the rapid growth in loans to households has continued. Foreign investors' interest in individual segments of the financial market has been associated with expectations of further growth in household and corporate financing, as well as in financial services related to the growth in government debt. A new impetus to the development of financial market activities was the Czech Republic's accession to the EU, which introduced the application of the single licence principle and hence free access to the financial market.

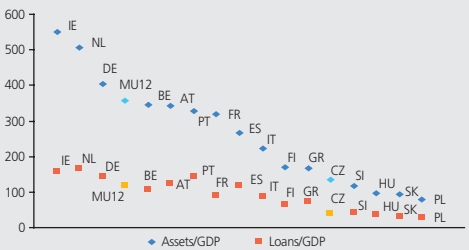
The above trends also entail certain potential risks. Increased loan expansion in a period of economic growth may result in a resurgence of the problem of bad loans in the event of a future economic slowdown or recession. An increase in interest rates and revenues in a situation of a closing output gap may affect the asset markets, including the property market, and result in an increased interest burden on debts incurred rapidly in the period of low interest rates. Although the ever-increasing international integration of the Czech financial sector entails a strengthening and bringing in of the required financial know-how, it is also opening up new potential channels for the transmission of elements of international instability.

4.1 INTERNATIONAL COMPARISON

The financial sector in the Czech Republic as measured by assets in relation to GDP is half the size of the European average and, for instance, that of Austria and Portugal. The depth of financial intermediation in the Czech Republic is close to the Greek and the Finnish financial systems. By comparison with other Central European EU member states, the Czech Republic's financial sector is the largest, in spite of the fact that its assets relative to GDP have gradually decreased to 135%.

As for the banking sector itself, which constitutes the core of the financial sector, the Czech Republic's ratio of total banking sector assets to GDP is – at 99.8% (2003) – also very high by comparison with other new CEE member states of the EU. This is a sign of a relatively developed banking sector, although this ratio for the Czech Republic is also decreasing.

CHART IV.1
Financial sector assets and loans in 2003
(% of GDP)



Note: High figures for LU not included.
Source: CNB, CZSO, ECB

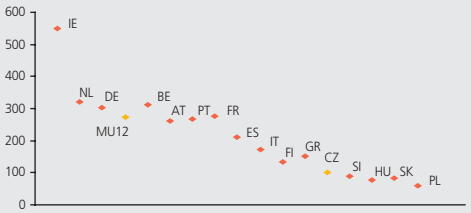
A more detailed examination reveals that the Czech Republic lags behind advanced EU countries in terms of lending. By comparison with these countries the volume of loans in relative terms (including the government sector) is up to three times lower. This is chiefly due to a still considerably lower level of household debt in the Czech Republic (the share of loans to households in total loans is approximately half the EU figure), to a still relatively low – although rapidly increasing – level of government debt, and also to a lower relative volume of loans provided to the corporate sector. As far as the corporate sector is concerned, some role may be played by alternative methods of financing, including financing from abroad, which does not show up in the domestic lending figures, and, for instance, intercompany debt, which remains significant.

Banking assets account for 74% of the Czech Republic's financial structure, compared to 76% in Poland, 82% in Hungary and 83% in Slovenia. The structure of the Czech financial sector is similar to that in other European countries. In the euro area countries (for instance in Austria), around three-quarters of financial sector assets are likewise banking assets.

The above information indicates that there are certain differences in the weight of the financial sector in the Czech Republic compared to developed EU countries, and, conversely, that there is some similarity in terms of structure. From the viewpoint of the theory of optimal currency areas, cross-country differences in the position and functioning of the financial sector could lead to differences in financial intermediation and monetary policy transmission and hence create conditions for asymmetric shocks. Despite its smaller weight, however, an efficient and flexible financial sector can efficiently absorb various adverse economic shocks and eliminate their impacts on the economy.

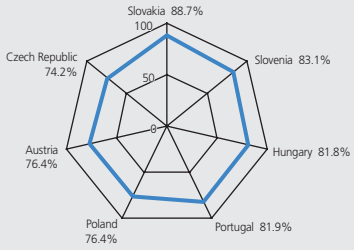
The international comparison, however, should not be overestimated and might gradually lose significance somewhat over time. The new environment, in which European financial institutions can now offer their services under the single licence principle, by cross-border provision of services or by applying European Company status, will reduce the information value of national financial sector indicators. As stated above, many firms are already financing their operations from foreign sources. Thus, information on the size of a national financial sector may gradually become indicative of the attractiveness of a particular country and its legislative and institutional environment from the perspective of a financial institution's headquarters, rather than of its economic significance within the relevant territory.[23]

CHART IV.2
Banking sector assets in 2003
(% of GDP)



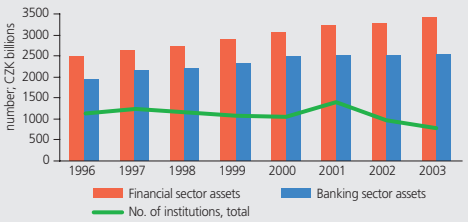
Note: High figures for LU not included.
Source: CNB, CZSO, ECB

CHART IV.3
Share of the banking sector in financial sector assets in 2003



Note: Slovakia excluding pension funds.
Source: CNB, CZSO, ECB

CHART IV.4
Number of institutions and volume of assets in the financial and banking sector
(CZK billions)

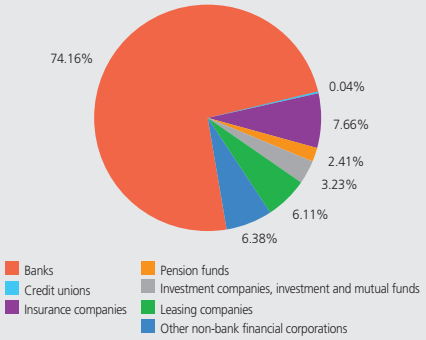


Source: CNB, CZSO, ÚDDZ

4.2 STRUCTURE OF THE FINANCIAL SECTOR

The basic segments of the current financial structure of the Czech Republic (banks, credit unions, insurance companies, pension funds, investment companies and funds, leasing companies and other financial institutions) have been in place since the mid-1990s. However, there have been some structural changes within this architecture. Although banking assets have risen in absolute terms in the last several years, their share in the financial sector has decreased owing to an expansion of non-bank entities and products. Banks have also lost out to their competitors as a result of clean-up operations. By international comparison, the weight of banks within the financial system is the lowest among

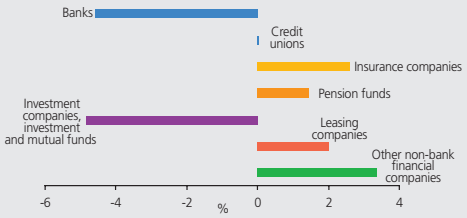
CHART IV.5
Shares in financial sector assets as of 31 December 2003



Source: CNB, CZSO, MF CR, ÚDDZ, ALS

23 The ratio of total banking sector assets to GDP need not always be merely an indicator of a highly developed local banking sector. For instance, for tax and regulatory reasons some banks choose to locate their head offices in some other country. An example is Luxembourg with a ratio of 32, which is more than ten times the level in the euro area (3.1).

CHART IV.6
Rise/fall in share in financial sector assets, 1996-2003
(%)



Source: CNB, CZSO, MF CR, ÚDDZ, ALS

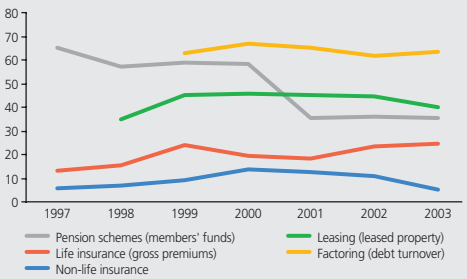
the new EU member states from Central and Eastern Europe. The weight of investment institutions and closed-end investment funds in the shallow capital market has dropped as well. On the other hand, the weight of other financial institutions has grown.

Differentiation and increasing competition in the loan and deposit market have resulted in a more diverse supply of products. Thanks to state contributions, insurance companies active in the life and annuity insurance market and pension funds have offered people an attractive opportunity for medium-term and long-term investment, and open-ended mutual funds likewise for short-term investment. As far as loans are concerned, leasing companies have taken advantage of the existing opportunities to lend to small and medium-sized enterprises and households. Consumer loans and hire-purchase plans offered by non-bank financial and commercial institutions are competing with the products and services offered by banks.

A diversification process has also been going on within banks, which, in a number of cases, head consolidated financial groups and through their subsidiaries exercise significant control over segments of the financial market. In addition to activities in the insurance and private pension scheme fields, they are involved in capital market trading, financial leasing, factoring and property trading. Many of these services, especially in the deposit market, but also in the loan market, are targeted at households.

4.3 MARKET STRUCTURE

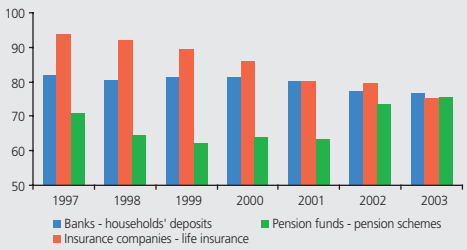
CHART IV.7
Market shares of banking financial groups
(%)



Source: APF ČR, ČAP, ALS, AFS.

Changes in market structure are a factor influencing the competitive situation in the sector and hence the efficiency and stability of financial institutions. Several aspects are important in this respect. Thanks to their capital strength and their ability to manage risks effectively and diversify their business, large strong financial institutions should be better able to withstand adverse pressures from the external environment. The concentration of financial activities into several large institutions is a positive development in this respect. However, their very size means that major financial institutions may also present a higher systemic risk than small companies. This also gives the state a greater incentive to intervene and bail out large companies when problems arise. Besides the fact that state assistance means intervention in the market and distorts competition, it also incurs fiscal expenses and generates a significant risk of moral hazard, tempting large companies to get involved in higher-risk activities. Consequently, in this context, a more competitive – i.e. less concentrated – market structure is the priority. Competition should foster better quality services and lower prices of products and hence motivate firms to be more efficient.

CHART IV.8
Market shares of the five largest companies on the relevant market
(%)

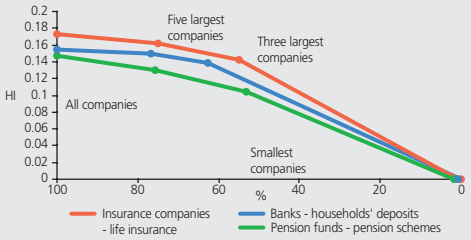


Source: CNB, ČAP

Rather mixed developments have been recorded across the individual segments of the financial sector in recent years. For instance, the number of organisations operating in the banking sector decreased from 40 in 2000 to 35 at the end of 2003 and the number in the pension scheme industry from 19 to 12 in the same period, whereas the number of insurance businesses has been flat at 40 since 1997. At the same time, there has been a gradual moderate decrease in concentration in the banking and insurance industries (which are currently the main segments of the financial sector), as measured by the share of the five largest financial institutions in the market. The pension fund sector has moved in the opposite direction, recording a rise in concentration. In spite of these mixed trends in the number of entities operating in the market, a similar market structure with a similar level of concentration has gradually emerged in these industries, with the five largest companies controlling around 75% of the market.

However, each financial industry has its specific features. In banking, for instance, many banks are currently trying to win new clients for loan transactions, and competition in this market segment is on the rise, whereas the deposit market remains controlled more conservatively by a smaller number of banks. This is also apparent in a way from the Herfindahl index, which measures the level of concentration. In the banking sector in mid-2004, the indices were 0.12 for assets, 0.11 for client receivables and 0.14 for primary deposits. In the household deposit market, the position of the three dominant banks is only slowly being challenged by competition from building societies (the large banks have maintained their positions through their subsidiary building societies) and from mergers and acquisitions implemented by some foreign banks operating in the Czech Republic.

CHART IV.9
Herfindahl index (HI) and market shares (%) of the three and five largest companies on the relevant market in 2003



Source: CNB

The main domestic insurance company has long had a privileged standing on the life insurance market. Today, its competition consists mainly of insurance companies operating within financial groups headed by banks. Foreign competitors specialising in the insurance market have bolstered their position by taking over a number of troubled pension funds. A strong position has also been maintained by subsidiaries of domestic banks. In 2003, large domestic banks controlled almost 36% of the private pension market and 24% of the life insurance market, but only 5% of the non-life insurance market. On the capital market, banks (the largest investment intermediaries) managed domestic investment funds and most of the assets of domestic open-ended mutual funds through their subsidiary investment companies.

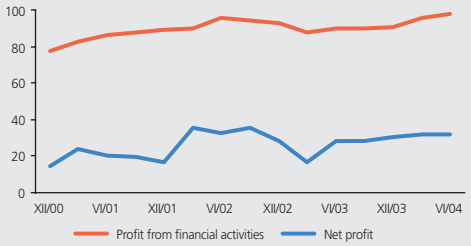
4.4 THE BANKING SECTOR

4.4.1 Profitability and Efficiency

The stability of the banking sector has been positively influenced by the profitability in the last several years. Sufficient profit generation has improved banks' ability to absorb even higher business risks and has fostered a favourable environment for growth in lending.

The banking sector closed 2003 with a net profit of CZK 30.2 billion, after having made a profit in each of the previous three years. Net profit amounted to CZK 16.1 billion as of 30 June 2004, up by CZK 2.1 billion on the same period a year earlier, thus increasing the financial stability of the sector as a whole (of 35 banks, only 3 were loss-making). The half-year result indicates that the total net profit for 2004 might be around CZK 2–4 billion higher than in the previous year, provided that the current trend continues. The main reason for the net profit growth is higher growth of profit from financial activities than administrative expenses. Another factor that has considerably affected net profit has been a repeatedly falling level of net creation of provisions.

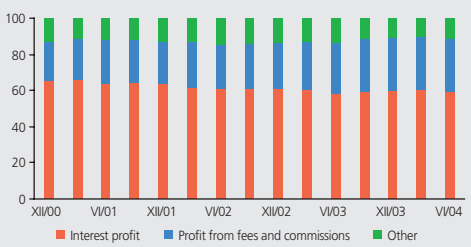
CHART IV.10
Profit from financial activities and net profit
(CZK billions, excluding Konsolidační banka and banks under conservatorship)



Source: CNB

Profit from financial activities, which is the basis of the resulting profit, has ranged around CZK 90 billion over the last three years. At 59% of total profit from financial activities for the first six months of 2004, interest income remains the largest component.

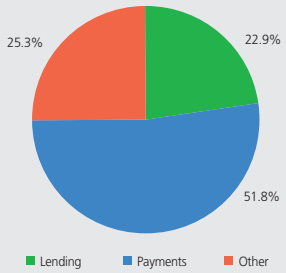
CHART IV.11
Profit from financial activities
(%; excluding Konsolidační banka and banks under conservatorship)



Source: CNB

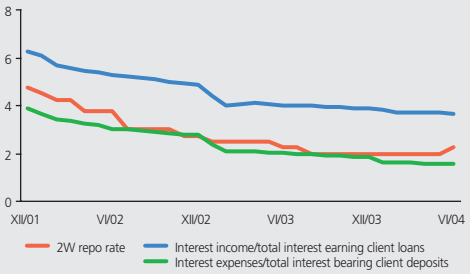
In summer 2004, banks responded to an increase in the CNB's key rates by increasing commercial interest rates on loans and partly also on deposits. This, together with continuing growth in lending, should result in a further increase in interest profit. Some banks, however, have for competitive reasons opted to make selected types of loans cheaper or have kept their interest rates unchanged and have not so far reflected the new market conditions in their margins.

CHART IV.12
Profit from fees and commissions as of 30 June 2004



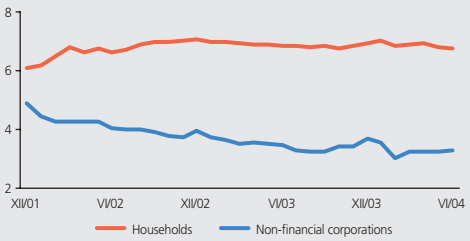
Source: CNB

CHART IV.13
Client and reference rates
(%; excluding banks under conservatorship)



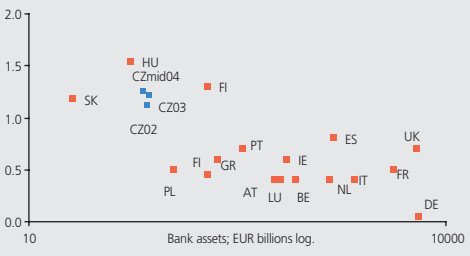
Source: CNB

CHART IV.14
Interest rate spread
(p.p.; total loans)



Source: CNB

CHART IV.15
Return on assets in 2003
(%)



Source: CNB, ECB

Profit from fees and commissions have recorded a rising share. The growth in this profit item is due to various effects. There is a rising volume of banking services associated with fees and commissions, such as cashless payments (e.g. salaries transferred to employees' current accounts replacing payments in cash, or direct debits from current accounts replacing payments by post) and the use of payment cards. There is also a huge expansion in consumer credit and mortgage loans. Such loans generate interest profit over the course of their repayment, but a fee is also charged for loan applications at the outset of the entire process. The provision of a mortgage loan, and in certain cases also of a consumer loan, is moreover tied to the opening of accounts on which fees are paid. Through their fee policies, banks are, among other things, trying to steer their clients towards cheaper forms of account maintenance (for instance Internet or mobile phone banking) which do not require the direct personal involvement of a bank employee. Banks make almost three-quarters of their fee and commission profit from payment and lending activities. The cost of advisory services and the fees attached to various service packages are also quite high.

Banks have in many cases decided to increase their fees for banking services. In this connection, the competitive market structure forming in the banking sector should play an important role in reducing the risk of an excessive increase in prices. At 29% in 2003, the share of profit from fees and commissions in total profit from financial activities in the Czech Republic was 3 percentage points higher than the average in the new EU member states.

The interest profit generated by banks in individual sectors of the economy depends on the volume of loans and deposits and on interest rates, which are conditional on the amount of loan (deposit) and the debtor's risk profile. In 2004 H1, transactions with the government sector accounted for 6.9% of banks' total interest profit, transactions with clients for 39.5%, transactions with banks, including the central bank, for 19.4%, debt securities (primarily government ones) for 30% and hedging interest derivatives for 4.2%. Profit from client transactions, which are the highest-risk component, thus has the largest share.

In June 2004, the interest rate spread on transactions with households was 6.76 points, compared to just 3.31 points in the non-financial corporations sector. Non-financial corporations have the advantage of lower interest on loans. The corporate sector is also more perceptive than households to loan rates and more often chooses floating rates in preference to fixed rates. Many households still view the latter positively as an element of security. In 2004 H1, households chose floating (or fixation of up to one year) for 12.2% of all house purchase loans, whereas 59.2% of such loans had a rate fixed for over five years. The corporate sector, on the other hand, opted for floating or fixation of up to one year for 89.2% of all newly drawn loans, while only 4.2% of such loans had a rate fixed for over five years. However, the type of rate also depends to a large extent on what the bank is offering, and not only on what the depositor or loan recipient is interested in. Rate fixation creates a risk arising from future unexpected movements in rates. In theory, banks, given information asymmetry and their better ability than clients to predict future developments, should be in a more advantageous position. However, even banks can lose on fixed rates. In building societies over the past few years, rate fixation has led to an insufficient interest spread and hence to a decline in interest profit. These institutions have had to seek other ways of offsetting this decline in order to protect their financial stability.

Households accept relatively high loan rates. Household loans have thus become a major source of profit for the banking sector at a time when interest rates have been at a low. The higher interest charged on loans to households also reflects the high transaction costs associated with a large number of loans of relatively low amounts.

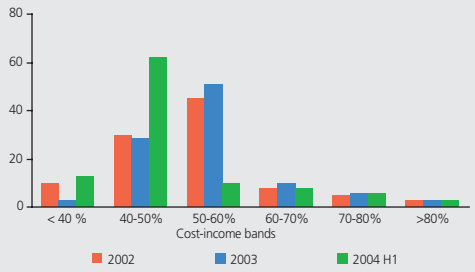
The profitability of the banking sector expressed as the ratio of net profit to assets has gradually risen in the last several years and is now relatively high. At 1.25% in mid-2004, it was almost double the year 2000 figure. Similarly good results have also been achieved by some other new EU member states from Central Europe. This contrasts with lower profitability in Western European countries, the banking sectors of which are still feeling the effects of the past economic downturn.

Return on equity – expressed as the ratio of net profit to Tier 1 capital – has been relatively high in the past four years. The figure for the first six months of 2004 was 23%. The domestic banking sector owes its generally high ROE values in the recent period primarily to the large banks category, which has been extraordinarily successful.

Beside profitability, costs are another indicator of banks' performance and efficiency. Administrative expenses – and especially staff costs (constituting almost 50% of administrative expenses as of 30 June 2004) – are relevant. Cost-effectiveness expressed as the ratio of administrative expenses to profit from financial activities (the cost-income ratio) ranged between 51% and 54% in 2000–2003. The development in 2004 so far indicates a slight fall in this ratio, i.e. a positive development, confirming the trend of a strengthening of the financial sector as a whole. As of 30 June 2004, those banks with ratios between 40% and 50% controlled almost 62% of total assets (three large banks are in this category).

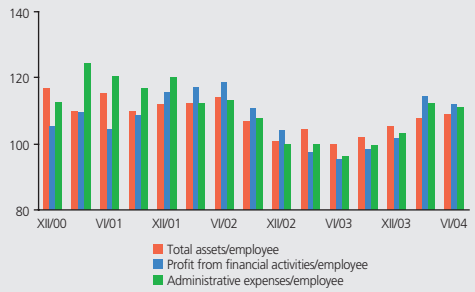
After recording a slight decline in 2002, growth in labour productivity, as measured by total assets per employee, has been rising since mid-2003 and was 9% year on year as of 30 June 2004. In absolute terms, the productivity achieved amounts to CZK 64.8 million per employee. Labour productivity expressed as profit from financial activities per employee grew by almost 12% year on year.

CHART IV.16
Cost-income ratio distribution
(% on bank assets)



Source: CNB

CHART IV.17
Labour productivity
(%; year-on-year changes)



Source: CNB

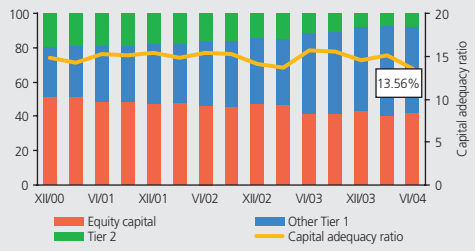
4.4.2 Capital

In recent years, net profit has become an important source of capital for banks, thanks to which the banking sector as a whole has adequate capitalisation at present. This reduces the potential financial vulnerability of banks. Profit enters banks' capital in the form of retained earnings and funds created from profit.

In previous years banks set aside the bulk of their profits in the form of retained earnings, which became part of their total capital. In 2004, however, banks decided to disburse a significant portion of their year-2003 profits in the form of dividends. This applies especially to the category of large banks, where in some cases part of the retained earnings from previous years was also paid out as dividends. Banks decided to do this chiefly because of the high level of capital adequacy, which significantly exceeds the regulatory minimum. Dividends paid to shareholders for the year 2003 accounted for almost 90% of the total distributed profit and 79% of the net profit in 2003. The share of the banking sector in the total outflow of profit from the Czech Republic abroad is around 40%. The current high level of profit generation and repatriation to investor countries is linked with the objective stage of maturity of the FDI channelled into the banking sector in past years. The outflow of dividends is significantly increasing the income deficit and hence increasing the current account deficit in the balance of payments. The ability to finance this outflow presents a risk of external imbalance.

The capital adequacy ratio of the sector as a whole has long exceeded the required 8% minimum. It stood at 13.56% in June 2004, but has been gradually

CHART IV.18
Capital structure and capital adequacy
(%; excluding Konsolidační banka and banks under conservatorship)



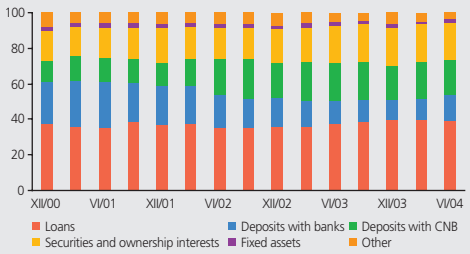
Source: CNB

falling since 2001 (from 15.4% at the end of 2001). This is due to higher growth in risk-weighted assets (which are subsequently reflected in the capital requirement)[24] than in total capital. This trend reflects the increased attention being paid by banks to the issue of capital efficiency in a situation where the risks of bad loans have decreased and the banking sector has stabilised.

The capital adequacy ratio of banks in the Czech Republic and its evolution corresponds to the ratios and evolution in other new EU member states. The ten new EU members reported an average capital adequacy ratio of 13.6% in 2003. The ratio had declined year on year, chiefly as a result of dynamic growth in risk-weighted assets (just as in the Czech Republic).

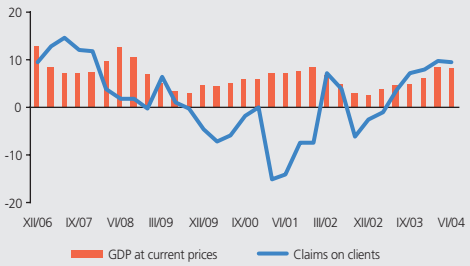
The banking sector's current capitalisation is so high that it would be able to maintain an 8% capital adequacy level even in the event of serious unexpected shocks. In a stress testing model, the banking sector proved its resilience to hypothetical changes in macroeconomic variables in two shock scenarios representing combinations of moderate and relatively large negative changes in interest rates, the exchange rate and loan quality.[25]

CHART IV.19
Asset structure
(%)



Source: CNB

CHART IV.20
Claims on clients and GDP
(%; year-on-year changes)



Source: CNB, CZSO

4.4.3 Asset Structure

The structure of assets and liabilities reveals banks' greatest potential risks. Loans and quick assets – accounting for 38.8% and 37.6% of total assets respectively in June 2004 – are the most important asset components. Loans are the more risky component of total assets. Quick assets, on the other hand, are liquid instruments with guaranteed, albeit none too high, yields.

The evolution of the asset structure reflects the cyclical development of the economy and also some longer-term trends. In the course of the past three years of economic recovery, the declining share of claims on clients recorded in 1999–2001 has turned into modest growth. Relatively low interest rates have also played a role in stimulating demand for loans. Many banks have recently been focusing increasingly on retail clients. Over the last three years, banks have considerably expanded their range of housing loans and consumer credit. The focus of banks on households was further supported in 2004 H1 by the passing of legislation permitting "American" mortgages.[26]

The rising lending could considerably help increase the total assets of the sector. In an environment of rising interest rates, banks could at the same time continue to increase their profitability. The development of government debt will also play a role in the years ahead, giving banks risk-free investment opportunities. However, if the economy unexpectedly slows or the balance sheets of corporations and households deteriorate for any other reason, banks would face a rise in credit risk.

4.4.4 Loans and Credit Risk

Receivables from clients amounted to CZK 1,029.6 billion as of 30 June 2004. Growth in lending exceeded 10% in 2003 and was 3.4% in the first six months of 2004. Since the end of 2001 there has been a pronounced upward trend in

24 The main reason is the overall growth in lending, represented primarily by growth in assets with a higher risk weight.

25 The stress test parameters and results are given in Annex 1.

26 A mortgage loan may thus be used for any purpose, provided that it is covered by pledged property. Further information is given in section 4.4.7 *Developments in the Area of Regulation.*

loans to households, which continued into the first six months of 2004 (growth of 14% compared to the end of 2003). Growth in bank loans to the corporate sector was considerably lower (3% in 2004 H1). Loans to the trades sector also increased slightly. These trends are reflected in the structure of lending.

Loans to the corporate sector form the largest component of total bank lending (43% at the end of 2004 H1). The decline in these loans (just like the decrease in their share of total loans) stopped in 2003 H2, and in the period that followed moderate growth was recorded. Bank loans to the non-financial sector amounted to CZK 441.6 billion as of 30 June 2004. The expected evolution of total bank lending is optimistic. It can be expected essentially to copy developments in the corporate sector, which in 2004 showed a continuing high rate of growth of industrial production and an improving business confidence indicator. The evolution of lending is consistent with the pick-up in investment growth powering the recent GDP growth. The largest increase in loans in the first six months of 2004 was recorded by construction firms, which enjoyed lending growth of almost one-quarter. The development of lending to non-financial corporations can be set in the broader context of their performance. Section 3.1 *Non-Financial Corporations* deals with the complex issues of this sector.

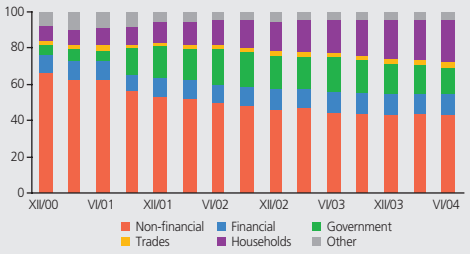
Most bank loans to the corporate sector are provided in Czech koruna. The koruna component has long been around 80%. In terms of maturity, short-term loans predominate in the corporate sector (41.6% of total loans as of 30 June 2004). However, their share of the total dropped year on year in favour of medium-term and long-term loans. The change in the maturity structure indicates their increased use for investment rather than short-term operational needs. Also in this respect, the evolution of the loan structure is consistent with the current stage of the business cycle. Bank loans are an important, but not the only, form of external financing for the corporate sector. Bank loans accounted for less than 30% of the external funds of the corporate sector at the end of 2003. Alternative corporate financing methods are given in section 3 *The Corporate and Household Sectors*.

Growth in loans to households continued into 2004. The total loans provided by banks to this sector amounted to CZK 240 billion as of 30 June 2004, representing a year-on-year increase in the debt of this sector of 36%. By international comparison, the current rate of growth of loans to households is high. However, it is based on a low initial level of these loans. Banks in the Czech Republic have started to focus more on the household sector only since the end of the 1990s. The growth in loans to retail clients is linked with changes in the saving and consumption behaviour of households and with low interest rates (even though, as stated above, rates for households are higher than those for corporate clients) and also with the fact that large loans to households can be secured by a system of guarantors, insurance and pledging of assets. The evolution of loans to households in relation to their total balance sheets is outlined in section 3.2 *Households*.

The rise in loans to households in the past several years has outpaced growth in wages and salaries. The indebtedness of households has thus increased. The quarterly volumes of wages and salaries increased by almost 6% in 2003, but total loans to households grew by 34%. This large difference between growth rates continued into 2004 H1.

Within loans to households, housing loans (i.e. mortgage loans and building society loans) have recorded particularly strong growth in the last several years. The rate of growth of bank consumer loans has slowed somewhat. The existence of other forms of debt outside the banking sector might adversely affect the level of debt of this sector. Debt purchases, hire-purchasing, leasing and credit card borrowing are further increasing the overall indebtedness of the domestic population.

CHART IV.21
Loan structure by sector
(%)

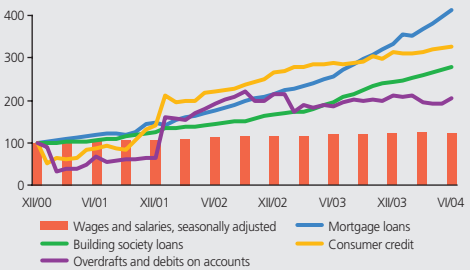


Source: CNB, CZSO

CHART IV.22
Loans to the corporate sector, business confidence indicator and industrial production index
(CZK billions)

Source: CNB, CZSO

CHART IV.23
Wages and salaries and loans to households in the Czech Republic
(%; 100% = XII/2000)



Source: CNB, CZSO

With their 41% share (almost CZK 98 billion) as of 30 June 2004, mortgage loans play the decisive role in the structure of total retail bank loans. Currently, mortgage loans can be drawn in the amount of the full price of the pledged property. This is fostering rising household indebtedness, as is the intensive construction of new apartments.

The credit risk in the case of mortgage loans is associated with several factors. Besides the continuing growth in the volume of these loans,[27] these factors include interest rate movements, which can change the debtor's instalment burden, developments on the property market, and the short history of these loans, which has so far prevented banks from gaining practical experience with long-term repayment. Section 3.2 *Households* and section 3.3 *Property Prices* deal with this issue in more detail.

Both banks and clients are continuing to focus on consumer credit. In January–June 2004, the stock of consumer loans to households grew by 4.5% to CZK 63 billion to account for 26% of total loans in the sector. The average amount of the loans being offered is on the rise, and at the same time the amount of loans provided without any evidence of income is increasing. As with other types of loans to households, the enormous growth in consumer loans is due primarily to their low initial level. The trend for these loans currently differs from most of the original EU member states. The year-on-year rate of growth has slowed (from 30.5% in mid-2003 to 12.7% in mid-2004), whereas in the euro area the original slowdown in growth in 2003 has turned into an absolute decline of more than 3%.

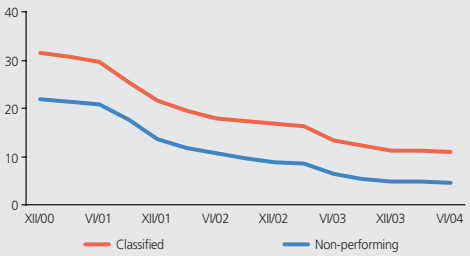
In aggregate, the quality of all types of loans has risen considerably over the past few years. In mid-2004, the share of classified loans in total loans was 10.8% and the share of non-performing loans in total loans was 4.5%, i.e. 24.7 percentage points and 23.5 percentage points lower, respectively, than in mid-1995, when the figures peaked.

The quality of the loans provided by banks in the Czech Republic is comparable to that of bank loans in the other new EU member states, where problem loans stood at 10.7% on average at the end of 2003.

The situation is improving in the case of corporate clients. In June 2004 classified loans to corporations amounted to 43% of the December 2000 figure and the share of classified loans in total loans fell just below 20% for the first time. Nevertheless, loans to corporations remain the poorer quality component of the loan portfolio.

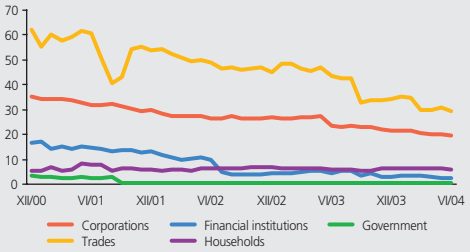
Loans to households are still among the least problematic ones in the Czech Republic. The share of classified loans in total loans has been fluctuating around 6% for some time. However, a future deterioration in quality cannot be ruled out in the medium term due to their dynamic growth. The quality of these loans differs considerably depending on their purpose. The share of classified mortgage loans in total mortgage loans has been in the range of 2%–3.5% since the end of 2000. Moreover, a large part of these loans are watch loans. The lower risk associated with housing loans is linked with banks' increased emphasis on assessing clients' solvency and with the existence of pledged property. The high

CHART IV.24
Watch and non-performing loans
(% of total loans; excluding Konsolidační banka and banks under conservatorship)



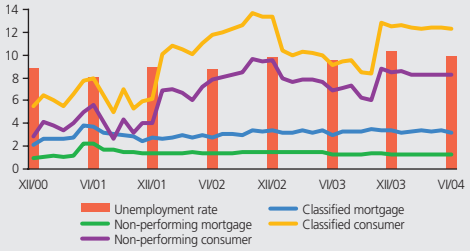
Note: Classified loans = watch and non-performing loans.
Source: CNB

CHART IV.25
Watch and non-performing loans by economic sector
(% of total loans of given sector; excluding Konsolidační banka)



Note: Classified loans = watch and non-performing loans.
Source: CNB

CHART IV.26
Watch and non-performing mortgage and consumer loans to households
(% of total loans of given purpose; excluding Konsolidační banka)



Note: Classified loans = watch and non-performing loans.
Source: CNB, CZSO

27 The sharp growth in mortgage loans, as with building society loans, in the Czech Republic is also due to a low initial base, as these types of loans only started to be provided in the mid-1990s. Comparing client housing loans between the Czech Republic and the euro area, one can see different trends in recent years. Loans in the Czech Republic grew by 46% in 2003 and by 19% in the first six months of 2004, whereas in the euro area the rate of growth slowed from 10% in 2000 to 8% in 2003.

quality of this component is also linked with debtors' motivation to hold on to their own housing for which the loan was acquired. The risk level of mortgage loans will probably rise in line with growth in the interest charged on newly provided loans and when rates fixed for shorter periods are revised.

In the case of consumer credit, households' discipline as regards repaying loans on time and in full is significantly worse. These loans are also usually far more poorly secured by banks. Their quality has steadily deteriorated, and the share of classified consumer loans in total consumer loans exceeded 12% in mid-2004. One factor indicating a possible improvement in this respect is the slowing rate of growth of consumer credit. The risk associated with consumer loans is reflected by banks in their interest rates, which are the highest for this type of credit.

The highest quality loans, i.e. those with the lowest ratio of classified to total loans, are loans to the government sector (around 0.5% in the long-term), followed by loans to non-bank financial institutions, whose share of classified loans in total loans dropped from 3.5% to 2.7% in 2004. The sector posing the highest risk to banks is trades, where almost one-third of loans are classified.

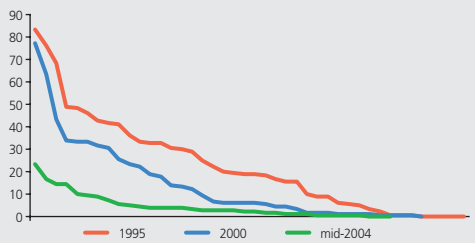
The distribution of the shares of non-performing loans in total loans also differs from bank to bank. However, this distribution has recorded a large shift in the period under review. At the end of 1995 the bank with the poorest loan quality had to include 83.5% of its loans among its non-performing loans, whereas five years later the highest reported figure was 77.2%. As of 30 June 2004, the least successful bank in terms of asset quality had 23% non-performing loans in its loan portfolio.

The banks' high degree of caution in providing new loans is playing a key role as far as asset quality is concerned. Another reason for the increasing loan quality was the transfer of low quality loans outside the banking sector, which was linked with the pre-privatisation clean-ups of the portfolios of large state-owned banks. Between the beginning of 2000 and mid-2004, banks sold loans valued at CZK 151 billion to non-banks, most notably the CCA (the Czech Consolidation Agency). The most frequently used forms of elimination of watch and non-performing loans were standard repayment and reclassification into the standard loans category.

Potential losses from the loan portfolio at the level of the banking system as a whole are fully covered by provisions, reserves and collateral. The degree of coverage by all of these forms exceeded 150% of the potential losses in June 2004. The absolute volume of reserves and provisions is falling in direct response to the rising quality of assets. Also, the use of information from registers of debtors may also be playing a role in the process of improving the quality of loans.[28]

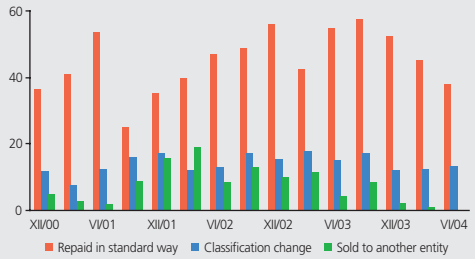
Despite the aforementioned favourable trend in loan portfolio quality, credit risk remains the primary risk for most banks. In this context, a shock affecting loan quality was simulated in a model. The results of the stress test showed that even quite a large increase in bad loans would not cause the capital adequacy ratio of the banking sector as a whole to fall below the regulatory minimum.

CHART IV.27
Share of non-performing loans in total loans according to individual banks
(%)



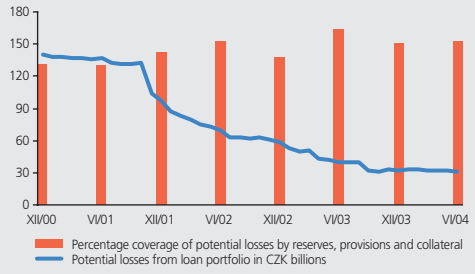
Source: CNB

CHART IV.28
Forms of decreases in watch and non-performing loans
(CZK billions; excluding Konsolidační banka and banks under conservatorship; excluding overdrafts)



Source: CNB

CHART IV.29
Coverage of potential losses from the loan portfolio



Source: CNB

28 There are three credit registers in the Czech Republic. The CNB operates the Central Register of Credits, containing information on legal entities and sole traders. The Czech Banking Credit Bureau is a commercial credit register with information on repayment of loans by citizens and sole traders. The information contained in the third register, Solus (Association for the Protection of Leasing and Loans to Consumers), may only be used by those banking institutions which helped to set it up.

4.4.5 Sources of Asset Financing

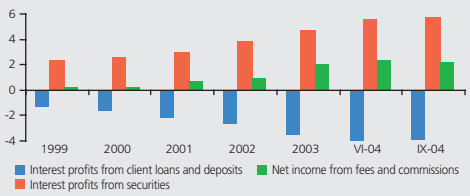
Risks also arise in banking business from maturity and currency mismatches between assets and liabilities and from mismatches between various sources of financing and the way they are used.

The surplus of primary funds over lending was 76% in June 2004 for the banking sector as a whole. The situation in terms of funds that can be used to finance bank assets differs from bank group to bank group and from bank to bank. Branches of foreign banks, with an interbank ratio (receivables from the interbank market/liabilities from the interbank market) of less than 1, use the interbank market as a source of financing. Conversely, large banks (ratio of 2.1 in mid-2004) allocate in this market the primary client deposits for which they cannot find any better allocation from their viewpoint.

A discrepancy between the forms of the individual sources of financing and the way in which they are used could put the building societies in particular at risk. In building societies, client deposits currently exceed loans provided by almost twofold. A balancing of the volume of deposits and loans is expected sometime in 2008–2010. Owing to a large decline in new contracts in 2004 following an amendment to the relevant law decreasing the state subsidy for savers, however, we cannot entirely rule out the scenario where building societies will seek other sources to finance loans. Financing on the interbank market may cause difficulties in the financial management of these banks, especially if there is a pronounced increase in interest rates.

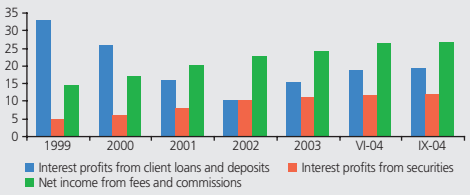
A shock affecting interest rates was modelled in a stress test, which showed a greater strain for building societies. For the banking sector as a whole, the stress test did not indicate any significant interest rate risk.

CHART IV.1.BOX
Interest profits and fees in building societies
(CZK billions)



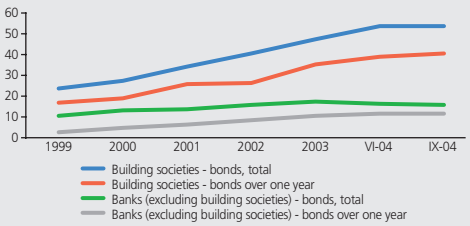
Source: CNB

CHART IV.2.BOX
Interest profits and fees in banks (excluding building societies)
(CZK billions)



Source: CNB

CHART IV.3.BOX
Bond portfolios as a percentage of total assets
(%)



Source: CNB

Box
Building Societies and Interest Rate Risk

Business in the building savings market has specific features which are reflected in the structure of building societies' balance sheets. On the liabilities side, deposits of building savings scheme participants dominate. These deposits accounted for 93% of total assets at the end of 2004 Q3. Interest is paid on these deposits at a fixed rate.

The situation on the asset side is different, since interest rates and income are much more variable there. Investments in money market and capital market instruments which meet the safety requirements make up a large part of the asset side. The proportion of bonds is significant. In mid-2004 bonds accounted for 54% of building societies' assets, compared to 16% for other banks (bonds with a maturity over one year accounted for 39% and 11% respectively). Loans granted by building societies represented 27% of their client deposits and 25% of their total assets as of the same date. In 2002–2003 there was a considerable fall in rates and yields on the money and capital market, leading to a sizeable decline in building societies' net interest margin. This contrasts with the relatively stable margin of other banks. Despite this, building societies have in recent years paid relatively high dividends to their shareholders, ranging from 10% to 15% of their capital.

The sensitivity of building societies' balance sheets to interest rate movements is amplified by the longer duration of their bond portfolio compared to other banks. The average duration of bonds with maturity over

one year held by building societies in mid-2004 was 3.4 years, compared to 2.2 years for other banks.

The aforementioned structure of building societies' balance sheets has significance in the assessment of market risks in the sector. Owing to the nature of their business, building societies are not exposed to direct exchange rate risk. However, the interest rate risk is higher than in the case of banks and could be reflected in capital adequacy.

The low interest rates in the last several years have stimulated borrowing rather than saving, which has resulted in a deterioration of matching in the case of long-term maturities. With the exception of building savings schemes tied to the achieving of a premium, clients have shunned time deposits, especially long-term ones. As for asset side transactions, there has been a clear effort to take advantage of the low interest rates and the best-ever supply of mortgage loans.

Given the rise in interest rates, growth in the volume of long-term bank liabilities can be expected going forward. The expected moderate growth in long-term client deposits will most probably be supplemented by a generally rising volume of mortgage bonds, new issues of which have been supported by several legislative measures (see section 4.4.7).

In the case of short-term maturities, liabilities exceed assets. However, if the usual liquidity of demand deposits is taken into account, the matching of assets and liabilities with short maturities has been very good over the past two years.

The risks arising from currency mismatches of assets and liabilities in the balance sheets of banks in the Czech Republic is minimised by means of limits on open currency positions. Currently, such limits are not fully utilised by most banks. The issue of exchange rate risk is discussed further in the following section.

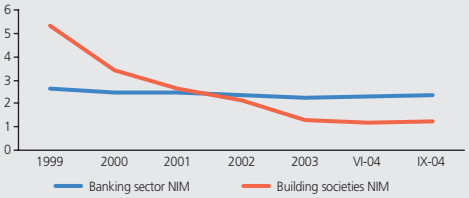
4.4.6 International Aspects

The continuing process of international integration of the Czech banking sector is introducing new aspects. This integration is taking several forms, the most important of which being the recent privatisation of state-owned stakes in banks to foreign investors and the various forms of operation of foreign banks in the Czech Republic. It also entails certain risks.

The Czech banking sector is almost fully controlled by foreign owners. As of 30 June 2004, foreign shareholders held 85.1% of the registered capital of banks, and 96% of the total assets of the sector were under foreign control (directly or indirectly) as of the same date. A high share of foreign capital in the banking sector is also typical for some other new EU member states.[29]

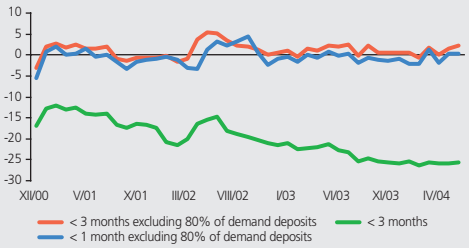
Parent foreign banking institutions have facilitated the transfer of management know-how and new technologies, expanded the range of banking products and services on offer, introduced modern distribution channels and changed the approach to the client. An improvement in the quality of risk management and an emphasis on internal control systems have bolstered the banks' stability. All

CHART IV.4.BOX
Net interest margin (NIM)
(%)



Source: CNB

CHART IV.30
Cumulative net balance sheet position
(% of total assets, including off-balance sheet)



Source: CNB

TABLE IV.1
Ratings of the Czech Republic and home countries of foreign parent banks
as of August 2004

	Fitch		
	LT Foreign Currency	ST Foreign Currency	LT Local Currency
Czech Rep.	A-	F2	A
Belgium	AA	F1+	AA
France	AAA	F1+	AAA
Austria	AAA	F1+	AAA
	Moody's		
	LT Bonds & Notes	ST Bonds & Notes	LT Bank Deposits
Czech Rep.	A1	P-1	A1
Belgium	Aaa	P-1	Aaa
France	Aaa	P-1	Aaa
Austria	Aaa	P-1	Aaa
	Standard & Poor's		
	LT Foreign Currency	ST Foreign Currency	LT Local Currency
Czech Rep.	A-	A-2	A
Belgium	AA+	A-1+	AA+
France	AAA	A-1+	AAA
Austria	AAA	A-1+	AAA

Source: CNB

29 At the end of 2003 the share of assets controlled by foreign capital was highest in Estonia (97%). In Slovakia it was the same as in the Czech Republic, at 96%. The share is also very high in Latvia (91%), Hungary (83%) and Poland and Malta (both 68%). Local capital predominates in Lithuania, Slovenia and Cyprus. Foreign investors, primarily banks from the EU15, controlled around 70% of the assets in the banking sectors of the new EU member states.

these factors have fostered relatively high and repeated profitability of the sector and satisfactory asset quality and capital formation.

On the other hand, the prevailing foreign ownership is a potential source of risks with regard to the transmission of economic problems from the home countries of parent banks or from parent banks themselves. Some Western European banks operate in several new member states simultaneously. The risk of international contagion might thus increase further. However, it should be noted that judging from the ratings of the home countries of foreign parent banks, the scenario of transmission of economic problems to the Czech Republic is not very likely. According to studies performed, however, a curtailment of subsidiary banks' lending activity cannot be ruled out in the event of a recession or financial shock in the parent's home country.

Another potential risk is the aforementioned outflow of profits in the form of dividends paid abroad. The decision on the amount of profit repatriated to the home country depends on the stage of the life cycle of the subsidiary bank, the economic and political situation in the country and the performance of the subsidiary itself. Much higher dividend payments abroad thus were registered in 2004 than in previous years.

As regards the stability of the Czech financial sector, the lower weight of subsidiaries and branches of foreign banks in the Czech Republic for their "large" parent banks and home supervisors by comparison with their significant, almost decisive importance in the Czech banking sector and financial sector as a whole, should not be underestimated.

The four largest foreign-owned Czech banks are, in terms of total assets, far less significant than their parent companies and have somewhat worse ratings if assessed by rating agencies (although they do have investment ratings). However, when one compares ratios, subsidiaries outperform their foreign owners in some cases. Indicators derived from profit show subsidiaries to be better performers, whereas indicators of loan portfolio quality only started to approach those of foreign parent companies in 2003.

As indicated above, foreign ownership has helped to open up the Czech banking sector to foreign economies. The overall position of the banking sector vis-à-vis non-residents – showing an excess of claims over liabilities since 1998 – recorded an increase as of 30 June 2004 due to contrary movements in non-resident assets and liabilities. With respect to non-residents, the overall position of the banking sector as a creditor was considerably strengthened, which might pose some risk to the recovery of claims if the bulk of them were linked to more risky regions. Currently, though, Czech banks' main business partners are banking institutions and non-banks in EU countries. The potential risk of contagion through the banking sectors of EU countries is insignificant, thanks to the diversified geographical orientation of the strategic owners of domestic banks and other foreign banks operating on the domestic market. Transactions with non-residents show considerable volatility. The bulk of them are linked to transactions on the interbank market (about one-half of non-resident assets) in which domestic banks try to take advantage of conditions in foreign markets in order to utilise their resources efficiently.

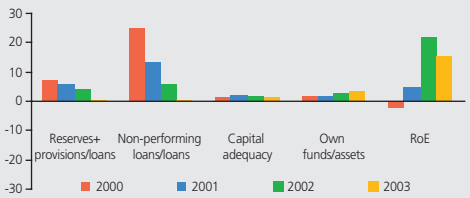
Particularly important are non-resident interbank transactions with partners based in Belgium, France, Italy, Austria and Germany, i.e. the home countries of the owners of the key Czech banks. These transactions chiefly relate to links between parent banks and their subsidiaries. The significance of bonds issued by banks in

TABLE IV.2
Ratings of Czech banks and their foreign parent banks
as of August 2004

	Fitch		
	LT	ST	Individual
ČSOB/KBC	A+/AA-	F1/F1+	C/B-C
KB/SG	A/AA-	F1/F1+	C-D/B
ČS/Erste Bank	A-/A	F2/F1	C/B-C
	Moody's		
	LT Bank Deposits	ST Bank Deposits	Fin. Strength
ČSOB/KBC	A1/Aa3	P-1/P-1	C-/B
KB/SG	A1/Aa3	P-1/P-1	C-/B
ČS/Erste Bank	A2/A1	P-1/P-1	D+/B-
	Standard & Poor's		
	LT Foreign Currency	ST Foreign Currency	LT Local Currency
ČSOB/KBC	BBB+/A	A-2/A-1	BBB+/A
KB/SG	BBB+/AA-	A-2/A-1+	BBB+/AA-
ČS/Erste Bank	BBB+/ -	A-2/A-2	BBB+/ -

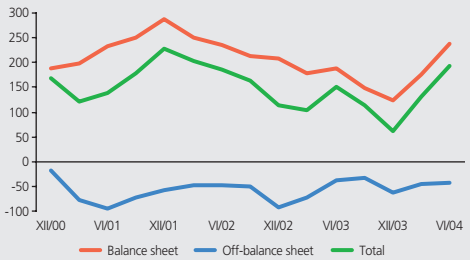
Source: CNB

CHART IV.31
Differences in selected indicators for the four largest Czech banks and their foreign parents
(p.p.)



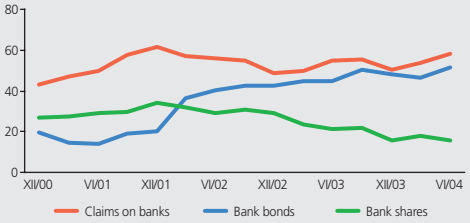
Source: CNB, BankScope

CHART IV.32
Position of the banking sector vis-à-vis non-residents
(CZK billions)



Source: CNB

CHART IV.33
Non-resident transactions vis-à-vis banks in EU member states
(% of total transactions of given type)



Source: CNB

the EU has recently become close to that of interbank transactions with foreign banks. The potential risk of contagion associated with the interbank market as measured by exposure vis-à-vis banks in the USA and Asia is significantly less than the potential risk vis-à-vis EU countries. Claims on banks from these regions individually account for less than 3% of the whole. The share of classified loans vis-à-vis foreign banks is practically zero.

With the exception of Slovakia, Czech banks rarely have exposure to foreign non-bank clients.[30]

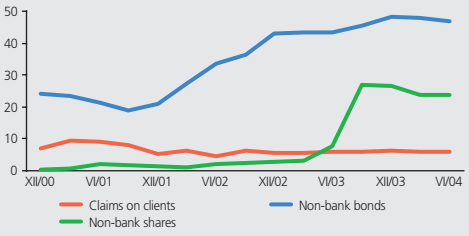
The banking sector executes most of its business in the domestic currency (more than 83% of assets in June 2004), and the openness of the foreign exchange position is relatively low. The long foreign exchange position fell continuously until mid-2002, when it changed into a short foreign exchange position. This accounted for less than 1% of assets as of 30 June 2004. Direct exchange rate risk is insignificant.

In all, 86% of claims on clients are currently denominated in koruna. Euro-denominated claims have grown in recent years. This growth trend is logically consistent with the increasing volume of transactions between clients of domestic banks and their partners from the euro area, and it can be expected to continue. As for client deposits, the koruna share is even higher than for claims, being close to 90% of the total. The euro component of primary deposits has been flat for the last four years at 6%–7%. The overall position for euro-denominated client deposits and loans is almost balanced. The foreign exchange position in the dollar-denominated client loans and deposits market shows a slight predominance of liabilities.

The banking sector was exposed in a stress test to a model shock to the exchange rate. The results of the test confirm that exchange rate risk for the banking sector as a whole is insignificant.

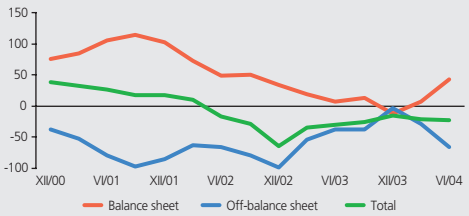
Another aspect of the links between the Czech economy and the banking sectors in EU member states is the provision of banking services in the Czech Republic by foreign banks. These issues are discussed in the following section.

CHART IV.34
Non-resident transactions vis-à-vis clients in EU member states
(% of total transactions of given type)



Source: CNB

CHART IV.35
Foreign exchange position of the banking sector
(CZK billions)



Source: CNB

4.4.7 Developments in the Area of Regulation

The current changes in the area of regulation and legislation often form part of the continuing harmonisation efforts aimed at giving banks a level playing field for business in the enlarged European Union. The planned new regulations and amendments to existing documents also respond to the requirements of the new capital framework (Basel II) and the further development of the rapidly changing domestic and international financial market environment.

The new capital framework – Basel II

The objective of the new capital framework is to increase the safety and soundness of financial systems, to introduce more accurate and sensitive rules for risk management and the calculation of regulatory capital, and to engender more extensive disclosure of information directly from banks so as to enhance the disciplining role of the market. These objectives are reflected in a more sensitive

30 The high proportion of client loans, ownership interests and fixed interest securities is related to ČSOB's strong historical ties to Slovakia. As of 30 June 2004, this bank had more than 200 branches in Slovakia.

approach to measuring risks in relation to the particular risk profile of a bank, and in more exact procedures for quantifying the regulatory capital of each individual bank.

Banks have been preparing themselves for the implementation of the required changes on a continuous basis since 2002. The changes arising from Basel II have thus already been influencing banks' behaviour prior to their introduction and require significant external investment (in information systems, development of models) and internal investment (in training, conversion to new processes) relating to the implementation of the new framework.

An important element in terms of financial stability is the banks' regulatory uncertainty arising from the fact that the relevant EU Directive implementing the Basel II principles is not yet in its final form, so changes having a more significant impact cannot be ruled out. Another element introducing uncertainty into the banking environment is the partial downgrading of the role of national regulators on the one hand and the emphasising of the role of consolidated regulators at EU level on the other. The rights of the banking supervisory authority in the Czech Republic may thus be constrained, owing to a shift in powers by comparison with the current situation. The scope and division of powers under the current proposal does not coincide with the specific responsibility for decisions made and is subject to debate within the EU. The establishment of the function of consolidated regulator at the European level will probably require some changes to the current version of the Czech Act on Banks.

The banks operating in the Czech Republic regard the uncertainties relating to the planned regulatory changes as a potential source of risks. A survey conducted among Czech banks in the first half of 2004 revealed that the risk arising from the expected regulatory changes is deemed medium to high by 87% of the banks questioned.

Apart from bringing a major change in risk management, the new capital framework will significantly change the calculation of the capital requirement. Large foreign banks expect to make capital savings as a result of the changes. However, the conclusions of the survey conducted among Czech banks are less optimistic. The capital requirement for operational risk may significantly increase the overall capital requirement.

Fair value accounting

Fair value accounting (FVA) principles are gradually being implemented into domestic banks' bookkeeping. The different accounting principles used in different countries prevent full comparability of national banking sectors and also make life difficult for entities owned by foreign investors, who have to keep accounts in dual format and hence incur higher costs.

The direct impact of FVA on profit/loss is positive, as it facilitates the identification of potential and hidden weaknesses (or irregularities) using the current accounting system. FVA enables more timely detection of deteriorations in asset quality than historical cost accounting and thus allows appropriate measures to be adopted more quickly. This should ultimately lead to a strengthening of the confidence and stability of individual institutions and the sector as a whole.

In terms of financial stability it is vital that investors and analysts have a proper understanding of the principles of fair valuation. The FVA approach may lead to over-optimism in a period of boom when market prices of assets are simultaneously peaking, and conversely to excessive caution in the event of recession.

FVA will significantly affect the monitoring of lending and loan quality. With the use of fair valuation, the potential volatility of loan data has two components, namely actual changes in the volume of financing of the economy and changes in the valuation of these loans. The introduction of FVA will thus reduce the information value of the balance sheet for some analytical purposes.

Single banking licence and free provision of services within the EU

Foreign banks have long been present in the Czech Republic through their subsidiaries and branches. Since the Czech Republic's accession to the EU in May 2004, all nine existing branches of foreign banks have been enjoying the benefits arising from the EU single licence directive. Under the same principles, other branches of foreign banks from EU countries may operate in the Czech Republic. Following accession, some other banks have taken advantage of the possibility of offering their services and products in the form of cross-border banking.

Since May 2004, branches of foreign banks do not fall fully within the competence of the CNB as the domestic supervisory body. In the case of branches of foreign banks which are supervised by their head offices' home supervisory authorities, the CNB currently supervises compliance with the liquidity rules and the area of money laundering. By contrast, the role of co-operation between supervisory authorities and the tasks arising from memoranda of understanding are being strengthened. Branches of foreign banks, both existing and newly established, continue to provide the CNB with all information on their activities in regular reports. These reports are currently used solely for statistical purposes.

Cross-border banking undoubtedly has some positive features, first among them being greater competition. Banks that start doing business in the Czech Republic (after making the required notification) help to foster a broader supply of services and products. This might, in turn, lead to growth in the quality of services and to a correction of prices. However, this new banking institution segment also brings with it potential risks. Relations with clients need not be, and, given the condition of non-systematic provision of services, should not be as stable as in the case of subsidiaries and branches of foreign banks. Thus, the risk may arise of more volatile cross-border cash flows responding sensitively to changes in economic, political or institutional conditions. Free provision of cross-border banking services is not supervised by the CNB in any respect, nor are statistical data provided. In the position of host country regulator, the CNB will not have at its disposal relevant data on cross-border financial activities, despite the fact that these activities, should they expand, might affect financial stability in the country.

The issue of non-uniform insurance of bank deposits in individual European countries is another problem area. Mandatory deposit insurance in the home country of the bank's head office does not absolve the host regulator – and in particular the central bank – of its responsibility for the financial stability of its country. Given the current structure of the Czech banking sector it cannot be ruled out that large subsidiaries (the former state-owned banks) of systemic relevance to the Czech banking sector will be transformed into branches.

Other legislative changes

In January 2004, an amendment to the Act on Building Savings Schemes and State Support for Building Savings Schemes entered into force. The main thrust of this amendment was to change the parameters of the state support provided for building savings schemes. In the area of deposits, building societies had in the recent past acquired a large market share, thanks chiefly to advantageous saving

conditions up to the end of 2003. However, in 2004 the number of new contracts dropped in year-on-year comparison. Should this trend intensify further, it could – in the longer term – affect the financing of loans extended. Their share in total assets (25%) is still low, but their growth is fairly buoyant and their quality is above average. The share of classified loans in total loans is approximately one-third of the average.

Besides the amendment to the Building Savings Schemes Act, the stability of the sector may be affected by a fine. The Office for the Protection of Competition is currently deciding in appeal proceedings on a fine imposed for a cartel agreement and an increase in fees on the building savings scheme market. The building societies decided to increase their fees or introduce new fees primarily in response to a sharp drop in their interest profit (resulting from a fall in interest rates). An alternative means of increasing profit is expansion of business and growth in lending. In 2004, building societies licences' were extended to include distribution of financial products such as insurance, mortgage loans and pension and investment fund products in the context of financial brokerage. In connection with the ongoing proceedings of the Office for the Protection of Competition, preparatory work also started on potential legislative bills to revise the Building Savings Schemes Act. The considerations focused on defining rules for determining and changing fees for building society clients. Also considered was the option of allowing client migration between individual building societies in order to increase competition and reduce fees. Such a change, however, would motivate building societies to improve the conditions for savers at the expense of borrowers. As regards the functioning of the building savings scheme system, the benefits of migration are dubious, since they would be exclusively on the side of clients interested in saving rather than in taking out a special-purpose loan, which is the main reason for the existence of the state support for building savings schemes.

The issue of real estate has also been affected by an amendment to the Act on Banks (which entered into force in May 2004), which repealed the obligation of banks to ask the regulator for a permit to issue mortgage bonds. Mortgage bonds may now be issued by all banks headquartered in the Czech Republic. The new Act on Bonds changes the definition of mortgage loans. Newly, a mortgage loan may be any loan secured by property, and mortgage bonds can now be issued against this broader scale of loans. This revision should foster growth in the overall issuance of mortgage loans and hence of mortgage bonds as well. The incorporation of American mortgages into the domestic legislation – allowing the drawdown and long-term repayment of large, non-specific loans – is an addition, rather than alternative, to consumer loans, which are generally smaller and have shorter maturity. For the client, one advantage of American mortgages over consumer loans is the lower interest charged on them. One potential disadvantage is the situation where the value of the property exceeds the amount of the loan requested. For the bank, conversely, collateral in the form of property represents a significant improvement of its position vis-à-vis the debtor compared to the situation for consumer credit. Thanks to a limit on the amount of the loan to 60%–70% of the value of the property, the bank also eliminates to some extent the risks associated with movements in property prices.

A positive effect on the stability of the entire financial system can be expected from the planned Act on Financial Conglomerates. This will regulate the performance of complementary supervision of regulated entities operating in financial conglomerates, relations between the supervisors of individual sectors of the financial market, and the obligations of entities operating in a financial conglomerate. The primary objective of the new Act is to define requirements for capital at financial conglomerate level so as to prevent multiple use of capital.

A new draft amendment to the Bankruptcy and Composition Act should strengthen the position of banks as creditors and newly regulate the position of banks in bankruptcy or composition.

In 2003 and 2004, the central bank also drafted new provisions and decrees (and amended the existing ones) regulating and changing the regulatory framework for bank business. These measures reflected the need for stronger internal control systems in banks, disclosure of information, prevention of money laundering and further development of mortgage lending.

An important condition for efficiently functioning financial markets is a strong system of co-operation between individual regulators. In a government-approved plan to integrate supervision of the financial markets (published in May 2004), the aim is to create a single integrated supervisory authority.[31] The integration of supervision into a single institution (as of the date of introduction of the euro in the Czech Republic) should eliminate the overlapping of activities of the current supervisory bodies, reduce administrative costs, strengthen and streamline the supervisory system and thereby promote efficient operation of the financial markets.

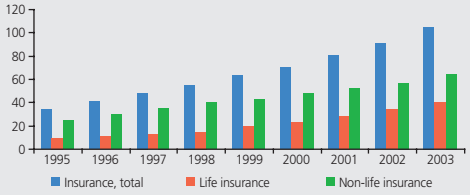
4.5 INSURANCE COMPANIES

The insurance market can be divided conceptually and in terms of the risks involved into two independently monitored and, as a rule, institutionally separate parts: life insurance and non-life insurance. Besides specialised insurance companies, universal insurance companies with separate accounts for life insurance and non-life insurance operate on the current domestic insurance market. Of the total number of 42 insurance companies in 2003, 23 non-life insurance companies, 3 life insurance companies and 16 universal companies operated on the market.

The insurance market is enjoying buoyant growth (16.9% in 2003). The high rate of growth will be maintained in 2004 thanks to life insurance, tax relief and the demographic structure of the population. However, the utilised potential of the market based on premiums written is still low: 4.2% of GDP, compared to a euro area average of around 50% of GDP.

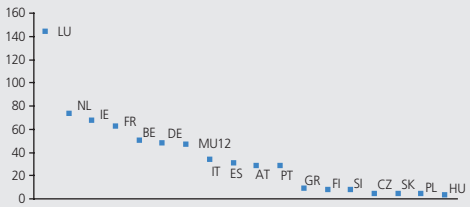
Insurers are required by law to set aside adequate technical reserves to cover the risks arising from insurance activities, doing so separately from their other liabilities. In conditions of market growth and prudent business activity, technical reserves are showing a rising trend. Technical reserves are the main source for financial investment in assets, which are subject to restrictions by law and whose structure should comply with the principles of safety, profitability, liquidity and diversification. In 2003, insurance companies invested 63% of their technical reserves in risk-free bonds and almost 10% in deposits in banks. Other investments are made in publicly tradable domestic and foreign bonds, mortgage bonds, property in the Czech Republic and only a negligible proportion in hedging derivatives.

CHART IV.36
Life and non-life insurance (premiums written)
(CZK billions)



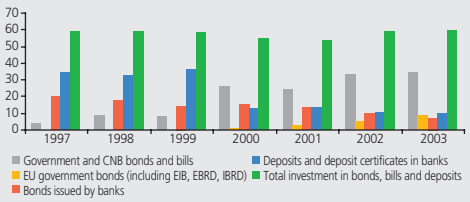
Source: MF CR

CHART IV.37
Life and non-life insurance (premiums written)
(% of GDP)



Source: MF CR, IAIS, ECB (figures for 2002)

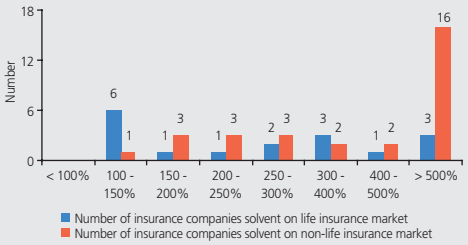
CHART IV.38
Financial investment in safe assets
(% of financial investments)



Note: Technical reserves are the main source for financial investment.
Source: MF CR

31 Supervision of the financial markets is currently performed by CNB Banking Supervision, the Office for Supervision of Credit Unions, the Czech Securities Commission and the Finance Ministry's Office of State Supervision of Insurance Companies and Private Pension Schemes. Initially, supervision of banks will be integrated with supervision of credit unions within the CNB (as of 30 June 2005) and state supervision of the capital market will be integrated with state supervision of insurance companies and pension schemes within the Czech Securities Commission (by 31 December 2005). The second stage, which is expected to be implemented on the date of introduction of the euro in the Czech Republic, will involve integrating the supervisory activities of the CNB and the Securities Commission.

CHART IV.39
Number of insurance companies satisfying the disposable to required (minimum) solvency ratio (%) in 2003



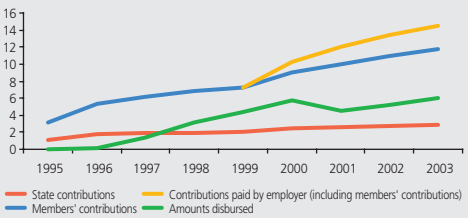
Source: MF CR

As regards compliance with the solvency criterion (prescribed in a decree), disposable (actual) own funds should be greater than, or at least equal to, the required minimum solvency.[32] In 2003, all insurance companies operating on the market were compliant with this criterion. Aggregated disposable solvency was 3.9 times required solvency in the non-life insurance market and 2.7 times required solvency in the life insurance market. Most insurance companies have sizeable own funds available for future expansion. The stability of insurance companies was also fostered by higher profitability (ROA), which stood at 2.2%.

Activities in the insurance industry are regulated by law for domestic insurance companies and reinsurance companies, for insurance companies with a single licence, and for third-country insurance companies. Newly, an insurance company cannot be granted a licence to carry on life insurance and non-life insurance activities simultaneously. The Finance Ministry is responsible for supervising insurance companies and for supervising an insurance company's activities within a group.

4.6 PENSION FUNDS

CHART IV.40
Pension fund sources and amounts disbursed in the given year
(CZK billions)

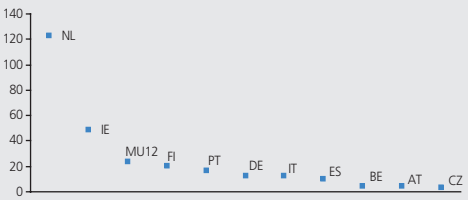


Source: MF CR

From the emergence of private pension schemes, until the end of 2003 a total of CZK 90.3 billion in contributions was invested in the system. Of this, CZK 19.7 billion came from the state. The stock of liabilities of the twelve active pension funds after collections and payments vis-à-vis members totalled CZK 77.2 billion. State contributions are rising in absolute terms in line with the number of pension scheme members requesting a state contribution, but their weight is falling relative to the overall volume of funds. The growth in funds is being motivated by the state contribution and by tax deductibility. Funds from employers, to which the state contribution does not apply, receive preferential treatment either in terms of taxation or by cost formation from the social insurance assessment base up to a prescribed level.

The ratio of private pension insurance to GDP was 3.1% in 2003. The growth potential of pension schemes by comparison with the euro area average (23% of GDP) is thus considerable. Due to demographic trends and the planned reform of the pension system, further growth of the private pension system is expected, as a supplementary pillar to the state pension system.

CHART IV.41
Pension scheme members' funds in 2003
(% of GDP)



Source: MF CR, ECB, CZSO

Pension funds invest the funds they receive from their members in safe assets: 46.4% in government and CNB bonds and bills, 19.4% in bank deposits and bonds and 12.3% in bonds issued by OECD countries. They located 21.8% in other investments in 2003.

Pension funds have achieved a sustained high return on average assets, which stood at 3.15% at the end of 2003 and was higher than that of banks and insurance companies. The profits have helped to increase the value of investors' contributions.

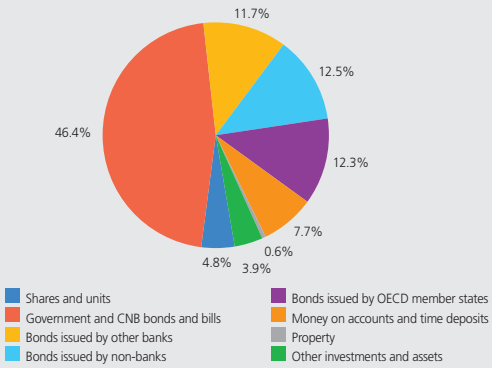
The Private Pension Insurance Act allows pension funds to be established by domestic and foreign legal entities or natural persons. This option has been used by employers and trade unions as well as financial companies. Employers have gradually been selling off their pension funds to foreign financial corporations, and the influence of well-capitalised shareholders simultaneously operating in banking and insurance is on the rise.

32 Solvency is the required amount of own funds sufficient to cover such (extraordinary) insurance claim payments that are not covered by the technical reserves of the insurance company.

Supervision involves inspecting the internal operations of pension funds, contractual relations and compliance with members' statutory entitlements. The state supervisory authority performs inspections in the area of claims for state contributions and the number of eligible members, the size of their assets, and compliance with the statutory limits on investments in financial assets, in line with the principles of safety, quality, liquidity and profitability of the structure of such investments. An amendment to the Accounting Act clearly segregates members' funds from the other liabilities of pension funds.

The activity of a pension fund and the activity of a depositary are subject to state supervision performed by the Ministry of Finance and the Czech Securities Commission (investment in capital market instruments). The pension plan and any changes thereto have to be approved by the Ministry of Finance.

CHART IV.42
Structure of pension fund investments in 2003



Source: MF CR

4.7 OTHER CAPITAL MARKET PARTICIPANTS

Apart from banks, insurance companies and pension funds, there are collective investment undertakings (i.e. investment funds converted into open-ended mutual funds, and investment companies administering shareholders' assets pooled in funds) which are involved in capital market transactions. Other organised market participants include securities dealers, brokers and investment intermediaries.

There was a further fall in the number of such entities in 2001–2004, as a result, for instance, of the withdrawal of licences from investment funds (which did not have depositaries), the investment company liquidation decisions of the Czech Securities Commission, the decisions of administrator investment companies to merge open-ended mutual funds, and a review of licences in the case of securities dealers. These steps fostered consolidation on the capital market, where institutions and persons now operate who satisfy prudential requirements and standards in compliance with the European law and are subject to state supervision.

4.7.1 Investment Companies and Investment Funds

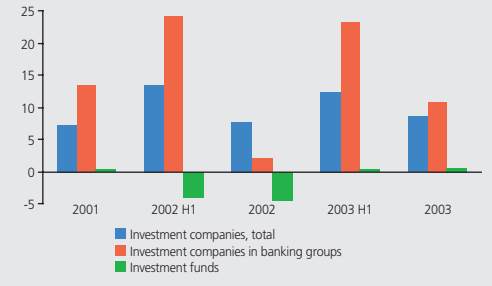
As of the end of 2003, a total of 15 investment companies were operating on the capital market, of which 3 were foreign owned and 5 were controlled by resident (mainly large) banks. Investment companies had assets of almost CZK 4 billion. They had 20% of their investments allocated in non-government bonds and 80% in shares, units and other securities. The companies maintained an overall ROE of 10.8% and ROA of 8.7%. The importance of investment companies consists in rational, prudent management of domestic funds (usually open-ended mutual funds or investment funds).

The size of the assets in investment funds dating from the privatisation period dropped considerably (to CZK 2 billion), owing to conversions to open-ended mutual funds. Bank subsidiaries administered the four last investment funds active in the market.

Investment funds within banking financial groups were profitable. However, banking financial funds' profitability was low, partly because of limited investment opportunities linked with their expected conversion to open-ended mutual funds (shareholder lawsuits regarding the validity of the conversion).

Investment companies and investment funds are required by law to have in place administrative and accounting procedures, internal control system requirements and policies to prevent conflicts of interest during the provision of services. Under

CHART IV.43
ROAs of investment companies and investment funds
(%)



Source: KCP

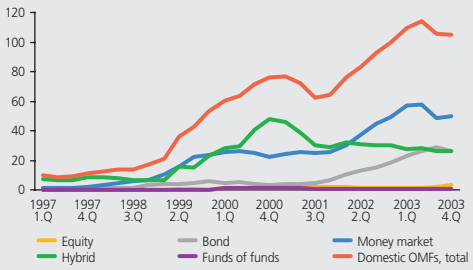
the Collective Investment Act and other standards, an investment company or investment fund may not use administered assets for its own account. State supervision of investment companies and funds is performed by the Czech Securities Commission.

4.7.2 Open-Ended Mutual Funds (Domestic and Foreign)

Domestic open-ended mutual funds are a developed form of collective investment in the Czech Republic. At the end of 2003, a total of 66 funds were active, with assets totalling CZK 106 billion. Of this number, 38 funds, with assets of CZK 99 billion, were administered through domestic subsidiary banks. Open-ended mutual funds invested mainly in bonds: 38% in government bonds and 48% in other bonds.

In addition to these domestic funds, foreign mutual funds offer products through registered investment intermediaries and securities dealers (including banks), although the actual investing is carried out by an investment company (fund) headquartered abroad. To publicly offer foreign special funds in the Czech Republic, a permit is needed from the Czech Securities Commission. To publicly offer foreign standard funds (UCITS) in the Czech Republic, the single licence principle applies, i.e. there is a duty to notify the Commission. According to the Capital Market Association, 730 foreign funds operate in the domestic market, and the total value of the investments of these funds in the Czech Republic was CZK 46 billion at the end of 2003.[33]

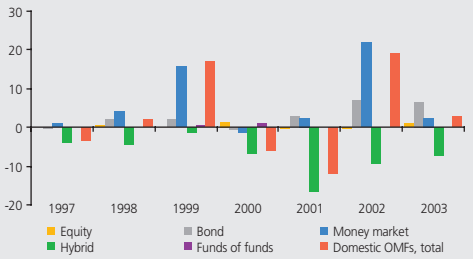
CHART IV.44
Assets of domestic open-ended mutual funds
(CZK billions)



Source: UNIS

Net sales of CZK 10.4 billion in foreign funds' units and CZK 2.6 billion in domestic funds' units in 2003 proved that there was strong interest in investing. Money market funds prevail over bond and hybrid funds in Czech households' financial investment structure. Interest in secured funds is also growing (these funds offer a contractual guarantee of return of principal and a minimum yield). These are funds that were offered primarily from abroad in the period under review.

CHART IV.45
Net sales of domestic open-ended mutual fund units
(CZK billions)



Source: UNIS

The activity of registered funds based in the Czech Republic is regulated by the Collective Investment Act, which took effect on 1 May 2004, although the activities of investment companies and mutual funds, and also the depositary, are gradually being adjusted up to 30 June 2005.[34] This Act regulates the business of standard open-ended mutual funds (in accordance with the law of the European Communities) and the business of special mutual or investment funds (national legislation). Assets in a mutual fund are administered by an investment company on the shareholders' account. The investment company issues the open-ended mutual fund's units and is obliged to repurchase them. The investment company keeps accounts on the assets of the mutual fund separately from its own accounts and from other mutual funds. The depositary of the fund keeps records on the assets of the collective investment fund and checks that the fund handles the assets in accordance with the law.

The stability of collective investing is reinforced by diversification and limitation of the risks of investing in securities. There are limits with respect to single issuers and limits on investing in financial derivatives. An investment company that

33 Hedge funds, venture capital funds and private equity funds offer high risk investments on the domestic market. These funds are not a traditional form of collective investment and are intended primarily for institutional investors. They invest in risky instruments and many of them are registered in tax havens. The funds would like to see a change in the Czech legislation enabling easier access to the domestic resources of pension funds and insurance companies.

34 The Act on Investment Companies and Investment Funds has been repealed.

wishes to provide a service in another EU member state through an organisational unit or without establishing an organisational unit under the principle of free movement of services has to notify the Czech Securities Commission of this fact. The single licence principle applies in this case. Likewise, a foreign investment company headquartered in an EU member state can provide services in the Czech Republic through an organisational unit or without establishing an organisational unit. The terms and conditions for foreign entities' activities in the Czech Republic under the single licence system are set forth in the Collective Investment Act. State supervision of compliance with the Collective Investment Act is performed by the Czech Securities Commission.

4.7.3 Securities Dealers

There were 60 securities dealers active in the capital market at the end of 2003, of which 15 were banks. The total volume of non-bank dealers' assets was CZK 9.5 billion and their equity capital was CZK 2.5 billion. Non-bank dealers had an ROA of 2.3%.

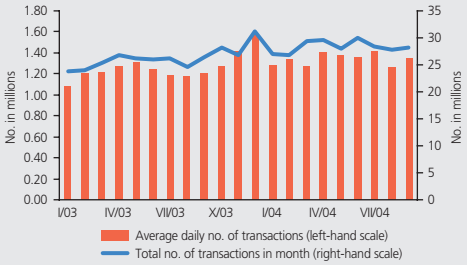
The capital adequacy ratio of the dealers is high (average 105%, median 83%), but is much more volatile than that of banks, the values being spread over a wide range (from 8% to around 400%). This is mainly due to the fact that only some dealers trade actively on their own account and have positions in their trading portfolios for which capital requirements are calculated. The volatility is due to the nature of their activities, which entails frequent changes in the trading portfolio positions held.

A securities dealer licence may only be issued to a joint-stock company. A licensed securities dealer must comply with the capital adequacy requirements on an individual basis as laid down in a special legal rule, unless it is a bank. The capital adequacy calculation under EC law includes a procedure and a capital adequacy limit for dealers of 8% in respect of the capital requirements for credit risk and market risks on an individual basis. Compliance with the limit and calculation procedures and other prudential legal provisions is overseen by the Czech Securities Commission.

CHART IV.46
Distribution of securities dealers by capital adequacy ratio in 2003

Source: KCP

Chart V.1
Number of transactions processed by CERTIS in 2003 and 2004



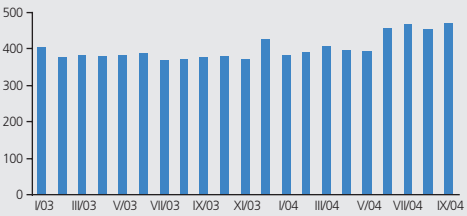
Source: CNB

Table V.1
CERTIS interbank payment system

Period	Turnover (CZK billions)	Average daily turnover (CZK billions)	No. of transactions (millions)	Average daily no. of transactions (millions)	GDP/ Average daily turnover
2002	100 343.10	430.7	262.3	1.12	5.6
2003	96 938.20	384.7	316.7	1.26	6.5
2004 Q1-3	81 218.81	425.2	256.2	1.34	

Source: CNB

Chart V.2
Average daily turnover in CERTIS in 2003 and 2004
(CZK billions)



Source: CNB

5 THE FINANCIAL INFRASTRUCTURE [35]

Financial stability has also been fostered in the last several years by developments in the financial infrastructure area. The importance of the financial infrastructure stems from the very function of the financial system, namely financial intermediation and the making of payments. Financial system participants use financial institutions to settle their payments, and these institutions are interconnected in various ways. Problems experienced by one institution can thus spread quickly to others via the payment system (contagion risk). At the same time, payment and settlement systems can be viewed as the first components of the financial system to signal emerging problems and so are important as regards testing the propagation of shocks generated by the financial system. For these reasons, the security and efficiency of the payment system and financial infrastructure as a whole is one of the key factors ensuring financial stability.

5.1 THE INTERBANK PAYMENT SYSTEM AND SHORT-TERM BOND SYSTEM

The Czech National Bank operates two systems that play a key role in financial intermediation: an interbank payment system called CERTIS (Czech Express Real Time Interbank Gross Settlement System) and a short-term bond system (SKD) for the registration and settlement of short-term securities transactions.

5.1.1 Transaction Volumes

One indicator of the importance of CERTIS and SKD is the volume of payments settled through them.

In 2003, CERTIS processed 304 million transactions totalling CZK 96,928 billion. This equates to 1.26 million transactions a day on average. The average daily value of the transactions was CZK 384.7 billion, with average turnovers in the individual months ranging between CZK 370 billion and CZK 430 billion. Transactions of up to CZK 1 million accounted for 99.6% of all transactions. On the other hand, about 108,000 transactions greater than CZK 100 million (around EUR 3 million) accounted for 87.5% of the daily turnover. The largest number of transactions in one day was 3.5 million. In the first quarter of 2004, CERTIS processed 83.2 million transactions totalling CZK 25,296 billion, an average of 1.3 million transactions a day.

These figures show the extent of payment clearing activity at CNB Clearing. In just 6.5 working days a turnover of some CZK 2.5 trillion was achieved, which is roughly equal to annual nominal GDP or the total assets of licensed banks.

In 2003, SKD handled transactions totalling CZK 39,040 billion. The average daily figure was CZK 155.5 billion. This means that the turnover in around 16 working days corresponded to annual nominal GDP or roughly the total assets of licensed banks. In the first half of 2004, SKD processed 8,300 transactions totalling CZK 18,992 billion.

The transaction volumes in SKD and CERTIS are affected each day by CNB repos amounting to around CZK 100 billion.

35 This section is devoted to the CERTIS and SKD systems administered by the Czech National Bank. An overall account of the components of the financial infrastructure is given in Annex 2: *Overview and Main Characteristics of the Components of the Financial Infrastructure.*

5.1.2 Risk Management

A strong emphasis on identifying, managing and eliminating the risks in these systems – especially credit risk and liquidity risk – to a large extent rules out the danger of these systems serving as a channel for the propagation of financial difficulties between institutions or markets.

Credit and liquidity risk management

In the case of CERTIS, credit risk vis-à-vis individual system participants is eliminated by a guarantee of irrevocability of items accepted by CNB Clearing and by finality of payments. The principle of gross settlement, on which CERTIS works, eliminates the domino effect risk that is inherent to netting systems.

Through SKD the central bank provides CERTIS participants with intraday "technical" credit to boost their liquidity during the day. All intraday credit extended to commercial banks by the CNB is collateralised, so credit risk is eliminated to the maximum possible extent.

Operational risk management

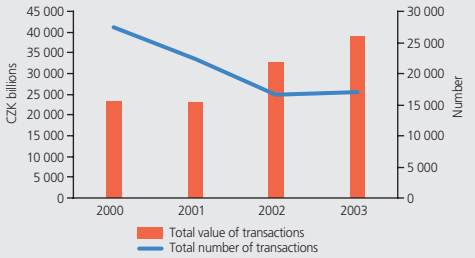
CERTIS is highly stable and reliable. Since it went live on 1 January 1997, not a single fault affecting or blocking the system's operation has been recorded. All transactions processed are backed up on a mirror disk at a remote back-up location. The back-up system is tested at least once a year as well as every time a major change is made to the system (i.e. it is used for a time as the primary system and the system at the CNB is conversely used as the back-up). The best test of the system's operation in extreme situations was the catastrophic flooding in the Czech Republic in 2002. The optical cable linking CERTIS with its back-up location runs through a tunnel of the Prague metro system, but there was no disturbance to the running of the system nor any prevention of full backing-up at any time the metro was flooded.

In 2003, SKD was assessed against the ECB's standards for settlement systems (*Standards for the use of EU securities settlement systems in ESCB credit operations*). The objective of this ECB assessment was to ensure that the market infrastructure in accession countries is adequate for joining the EMU. The standards create the framework for mitigating risks related to the settlement of credit operations and the safekeeping of collateral during these operations. As all Eurosystem credit operations (including intraday credit for payment system purposes) have to be collateralised, securities settlement systems in accession countries will, even before joining EMU, have to be compliant with the standards when their central banks connect to TARGET. SKD was evaluated as fully compliant in most respects. From the technical perspective, the system is highly secure, uses electronic authentication of participants and has the option of digital signature and encryption of transmitted data.

5.2 LEGISLATIVE DEVELOPMENTS

Over the past two years considerable progress has been made in enhancing the legislative framework in the financial infrastructure area. The fruits of the labours to harmonise the Czech payment legislation with EU law include Act No. 124/2002 Coll., on Transfers of Funds, Electronic Payment Instruments and Payment Systems (the Payment System Act), which took effect on 1 January 2003, and Act No. 256/2004 Coll., on Capital Market Undertakings, effective

CHART V.3
Volume and number of transactions processed in SKD



Source: CNB

TABLE V.2
SKD short-term bond system

Period	Total value of transactions (CZK billions)	Total number of transactions	Total value of securities issued (CZK billions)	Total volume of intraday credit (CZK billions)
2002	32 418	16 615	2 132	
2003	39 040	17 029	1 850	2 493
2004 Q1	10 378	4 221	815	314

Source: CNB

from 1 May 2004. By the adoption of these laws and CNB decrees[36] on the execution of payments, standard EU rules have been implemented into the Czech legal order and the responsibilities and procedures of individual system participants have been defined more precisely.

The Payment System Act implements the following directives into Czech law: Directive 97/5/EC of the European Parliament and of the Council of 27 January 1997 on cross-border credit transfers, Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems, and Directive 2000/46/EC covering basic aspects of electronic money and electronic payments. The Act lays down conditions for the establishment of other payment systems in the Czech Republic, which would be licensed by the Czech National Bank (to date no private entity has taken advantage of this option).

At the EU's recommendation, the CNB issued a decree concerning electronic money instruments following the adoption of the Payment System Act.[37] This decree lays down a number of internationally accepted consumer protection standards.

Particular attention was devoted to out-of-court settlement of disputes relating to payments and payment services. Act No. 229/2002 Coll., on the Financial Arbiter, which took effect on 1 January 2003, implemented the requirements of Directive 97/5/EC into the Czech legal order. The Financial Arbiter, who is elected by the lower house of the Czech parliament, is required to be an independent person with considerable experience and an excellent reputation in the payment system field. The Arbiter's office receives financial support from the Czech National Bank.

The Capital Market Undertakings Act introduced more measures to strengthen SSS (securities settlement system) risk management. It implements into the Czech legal order the principle of irrevocability of SSS orders and also provides for the existence of a central depository responsible for settling securities transactions (this central depository has yet to be established; the Prague Securities Centre currently maintains the securities register). The Czech Ministry of Finance is working with the Czech Securities Commission and the Prague Stock Exchange to establish this central depository.

Box
The Capital Market Undertakings Act

Act No. 256/2004 Coll., on Capital Market Undertakings, which took effect on 1 May 2004, can be regarded as an important step towards further bolstering the stability of the financial infrastructure.

The Act newly regulates the securities settlement system, as well as the over-the-counter market organiser, the register of securities and the central depository, which in the future will replace the Prague Securities Centre and will settle transactions in investment instruments.

36 Decree No. 548/2002 Coll., stipulating the terms and conditions for the principles of settlement in payment systems and the essential elements of an application for a licence to operate a payment system. Decree No. 62/2004 Coll., stipulating the manner of execution of payments between banks and settlement on accounts at banks, and the technical procedures to be used by banks for corrective settlement.

37 Decree No. 547/2002 Coll., stipulating the essential elements of an application for prior consent to issue electronic money instruments.

Two areas covered by the Act are particularly important as regards assessing the stability of the financial infrastructure – settlement finality and the establishment of the central depository.

Settlement finality
The Act fully implements Directive 98/26/EC into the Czech legal order (Directive of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems). The Directive lays down rules for the safety and soundness of payment and securities settlement systems, especially in the event of the bankruptcy of a system participant.

The key provisions in this regard are Article 82(3) and Article 86 of the Act, which define the term "settlement order" and provide for the principle of finality (irrevocability) of a settlement order. This principle may not be limited even in the event of the bankruptcy of an SSS participant. Likewise, an adjudication of bankruptcy on an SSS participant's assets is not permitted to have any effect on the use of the assets provided by that participant to another participant of that system connected with the collateralisation of his liabilities arising from transactions in investment instruments, or on collateral security provided to the Czech National Bank, the central banks of EU Member States or the European Central Bank.

The Act provides that the securities settlement system operated by the CNB under a special legal rule, namely Article 31(2) of Act No. 6/1993 Coll., on the Czech National Bank, (the SKD) is also a securities settlement system within the meaning of Directive 98/26/EC, since irrevocability of settlement orders is guaranteed in this settlement system too.

Also linked to the provisions of the Capital Market Undertakings Act is an amendment to the Bankruptcy and Composition Act, which, with effect from 1 May 2004, requires courts to inform the Czech Securities Commission of adjudications of bankruptcy on SSS participants.

Central depository
Under the Securities Act (Act No. 591/1992 Coll., as amended) the Prague Securities Centre currently maintains a statutory register of dematerialised and immobilised securities pursuant to the transitional provisions of the Capital Market Undertakings Act (Article 202).

The Capital Market Undertakings Act newly provides for a central depository, which is supposed to take over the running of the register from the Securities Centre. Under the proposed arrangement, the central depository differs from the Securities Centre in two respects:

- the central depository has a considerably wider scope of activities, as, in addition to the register currently maintained by the Securities Centre, it may keep a register of collective bonds or collective certificated securities (in a separate register), it will settle securities transactions and it may also keep a register of investment instruments registered in a "separate register of investment instruments" (see Article 100(2) and Article 93(1)). The central depository may also carry on other activities set forth in the Capital Market Undertakings Act,
- customer access to the central depository is to be narrowed. The central depository is based on the membership principle, as is the norm with central depositories in other countries. Owners of securities will not communicate with the central depository directly, as has been the case to date with the Securities Centre, but via members of the central depository.

The Act stipulates that a separate register of investment instruments shall also be a register of securities maintained by the Czech National Bank under a separate legal regulation governing the activities of the CNB (i.e. under Article 31(2) of Act No. 6/1993 Coll., on the Czech National Bank).

The establishment of a central depository along the lines of those in countries with well-developed capital markets is an important step in the transformation of the Czech capital market. It is clear that the securities register maintained by the Securities Centre forms the foundation on which the central depository will be created.

ANNEXES

ANNEX 1: SUMMARY OF STRESS TEST RESULTS AS OF MID-2004[38]

To estimate the resilience of the Czech banking system, stress tests were performed to subject banks to hypothetical changes in key macroeconomic variables. The test results indicate that banks' exposures to the main sources of risk have not changed fundamentally in the past 12 months and that despite a decline in its capital adequacy ratio the banking sector would be able to withstand large adverse shocks.

Test methodology and shock sizes

Stress tests use data on the balance sheet and off-balance sheet positions of banks to assess how the financial soundness of the banking system might be affected by sizeable changes in parameters such as interest rates or the exchange rate. Similar tests form part of the financial system stability analyses performed by central banks and financial supervisory institutions in numerous EU member states. They are also a key element of the International Monetary Fund and World Bank's reports under the Financial Sector Assessment Program (FSAP).[39]

There is a wide range of possible stress test scenarios, and the literature provides only partial guidance on how to narrow this range down.[40] "Exact" determination of particular shocks is very difficult, owing to a lack of long historical series and because future shocks and crises can differ substantially from past ones. To express the uncertainty regarding the nature and size of the shocks, we present here two scenarios representing two different stress levels (see Table 1). These scenarios try to take into consideration the prevailing international practice and the specific Czech environment.

The proposed scenarios consist of combinations of adverse changes in interest rates, the exchange rate and loan quality. Scenario I is a combination of a 1 percentage point increase in interest rates, a 15% depreciation of the exchange rate and a 30% rise in non-performing loans (NPLs) by reclassification from the standard and watch loan categories. Scenario II represents a combination of a 2 percentage point increase in interest rates, a 20% depreciation of the exchange rate and a 3 percentage point increase in the ratio of NPLs to total loans. The effects of these combinations of shocks are measured at the one-year horizon and are assessed by comparing the capital adequacy ratio (CAR) before and after the shocks. The calculations assume that if no shocks had occurred, each bank would have generated the same profit or loss as it achieved on average in the previous five years.

Both scenarios are plausible in a situation of a sharp deterioration in the macroeconomic environment. For example, the increase in NPLs considered would be brought on by an economic slowdown or recession leading to a decrease in debtors' ability to repay their loans. The probability of such large macroeconomic shocks may be low, but the experience of other countries and the Czech Republic shows that such phenomena are not entirely improbable.

38 Prepared by Martin Čihák and Jaroslav Heřmánek.

39 Indeed, the first-ever stress tests for the Czech Republic were conducted within the FSAP. See International Monetary Fund (2001), *Czech Republic: Financial Sector Stability Assessment*, IMF Country Report No. 01/113.

40 A formal model of the economy can be of help in drawing up a stress scenario, but its usefulness tends to be limited in practice, as standard models often break down in the event of large shocks such as those used in stress tests. The presented scenarios nonetheless take into consideration the general linkages between the variables, such as the fact that higher interest rates tend to lead to an increase in non-performing loans. For a more detailed discussion, see Čihák, M. (2004), *Designing Stress Tests for the Czech Banking System*, CNB Internal Research and Policy Note No. 3/2004 (http://www.cnb.cz/en/vyz_cnb_irpn.php).

The chosen scenarios are based on extreme historical shocks. In the Czech economy they relate to the mid-1997 experience of a depreciation of the exchange rate and a rise in interest rates. The scenario of a rise in the NPL ratio is based on developments in 1997–1999. This situation will not necessarily repeat itself and the warning scenarios will not necessarily materialise. The scenarios are not forecasts, but rather a means of measuring exposures in the banking system and changes in banks' resilience to risks over time. The same scenario is applied to various time periods in order to assess how the effects of the scenarios change between each measurement.

Stress test results and their interpretation
Stress tests were conducted on data as of the end of June 2004 and the results were compared to the results of tests performed according to the same method for June and December 2003 (see Table 2). The CAR declined during this period (by 2.2 percentage points between mid-2003 and mid-2004). The stress test results indicate that there was a simultaneous fall in banks' overall exposure to the main risk types. As a result, the overall decrease in the post-shock CAR in the period under review (by 0.7 percentage point in scenario I and by 0.7 percentage point in scenario II) was considerably smaller than in the case of the pre-shock CAR. The post-shock CAR remained above 8%, which is the regulatory minimum for individual banks.

For some banks the post-shock CAR might fall below 8%, but a relatively small capital injection by their owners (of around 0.1 and 0.4 per cent of GDP overall in scenarios I and II respectively) would be enough to return them to this threshold. Under scenario I, no bank would be left with negative capital. Under scenario II, banks with a market share of 6.7% would have negative capital, which is more than at the end of 2003 (3.5%).

The relative importance of the individual risk factors changed little between the end of 2003 and mid-2004. Credit risk, which gained in significance in the latter half of last year, did not increase any further in the first half of 2004.

Some differences can be seen in the evolution of risks within individual bank categories. Medium-sized banks experienced both an increase in CAR and a relative decrease in exposure to shocks during the first half of 2004, so the post-shock position of these banks improved markedly. Conversely, the other bank categories saw a fall in CAR (the largest decrease being in small banks).

Besides the simple stress tests summarised in Table 2, more elaborate tests were conducted for other risk types. These included an interbank contagion stress test to examine the financial repercussions of problems in one bank carrying over to other banks in the system through the mutually uncollateralised positions of individual banks on the interbank market. The results of these tests indicate that the risk of transmission of risks through the interbank market is very low.

When interpreting stress test results it is vital to take their theoretical and practical limitations into consideration. Just like any other model, the model used for stress tests is only an approximation of reality. The tests do not assume any active response by banks and banking supervisors to shocks in the system. Some sources of risk (such as the risk of changes in the prices of securities held by banks) were not included in the scenarios presented, as preliminary analyses had suggested that these factors play a relatively minor role in the Czech Republic. Other sources of risk were omitted because they are extremely difficult to model explicitly (for example the risk of bank runs).

The stress tests examine the soundness of the banking system as a whole, not that of individual institutions. They were performed on data for individual banks because the use of aggregate data could conceal problems concentrated in just a few banks. However, they do not address shocks specific to individual banks (such as the quality of individual assets or operational and legal risks); these issues are the subject of banking supervision.

Table 1. Stress Test Methodology

Risk factor	Shock size		Motivation behind shock sizes chosen	Notes on methodology
	Scenario I	Scenario II		
Interest rate shock	1 p.p. rise in interest rates	2 p.p. rise in interest rates	FSAP missions used interest rate shocks ranging from 0.5 to 3 p.p. in the tests. The Basel Committee on Banking Supervision has recommended a 2 per cent interest shock. The same shock size is also given in the US Fed's banking supervisory methodology. The Czech FSAP mission worked with a 1.5 p.p. rise in rates.	We assume that there is an increase in reference rates which passes through to loan and deposit rates. The value of debt securities held by banks decreases simultaneously.
Exchange rate shock	15% depreciation of exchange rate	20% depreciation of exchange rate	In Basel Committee documents, exchange rate swings of 8 per cent are used to calculate capital charges; fluctuations of at least 25 per cent are assumed for options. The Derivatives Policy Group recommended at least 6 per cent for major world currencies and 20 per cent for other currencies. Stress tests conducted by FSAP missions varied between 10 and 50 per cent. The Czech FSAP contained a 16.5 per cent depreciation of the koruna's effective exchange rate, equivalent to 3 standard deviations (roughly 1 p.p. confidence level based on log-normal distribution). The maximum 3-month fluctuations in the koruna's rate were around 20 per cent (depreciation) and 10 per cent (appreciation).	We assume that the koruna's exchange rate depreciates against all other currencies. We measure both the direct effect of this change on banks through the currency composition of their assets, liabilities and off-balance sheet items, and the indirect effect through enterprises' ability to repay foreign exchange loans. This indirect effect is presented as part of the effects of the credit shock.
Credit shock	30% rise in NPLs	3 p.p. rise in ratio of NPLs to total loans	Most FSAP missions assumed an increase in NPLs of between 5 and 30 per cent; the Czech FSAP assumed a 7.8 p.p. increase in the NPL ratio (as in 1997–1999), which in 2001 corresponded to a 63 per cent increase in the volume of NPLs. Here the assumed increase in NPLs is at or above the upper limit of the above FSAP range. There are two reasons for this. First, in this increase we are trying to reflect the indirect effects of the interest rate increase and the exchange rate depreciation on loan quality. Second, we are trying to express the potential risk stemming from fast growth in loans to households. These loans currently have a low default ratio (NPLs to households accounted for 4.6% of total loans extended to households as of 30 June 2004), but given their current high growth rate even a small deterioration could lead to a relatively fast rise in NPLs from the present relatively low base.	To reflect the fact that credit risk may be proportional to new loans rather than existing NPLs (which is possible given the aforementioned change in the loan structure), in scenario II we express the increase in NPLs as a proportion of total loans. The 3 p.p. increase in this ratio is roughly equivalent to a 60 per cent rise in NPLs (for mid-2004 data).

Reference: Derivatives Policy Group (1995), A Framework for Voluntary Oversight, New York. Basel Committee Documents, see www.bis.org. For more details, see Čihák, M. (2004), *Designing Stress Tests for the Czech Banking System*, CNB Internal Research and Policy Note No. 3/2004

Table 2. Summary of Stress Test Results, 2003–2004: Banking Sector

(data in % unless stated otherwise)

	June 2003	December 2003	June 2004
Pre-test CAR [1]	**15.8**	**14.5**	**13.6**
… large banks	15.3	13.5	12.3
… medium-sized banks	17.2	16.9	17.9
… small banks	20.0	19.5	16.1
Scenario I			
Total effect of shocks (p.p.)	-4.4	-2.9	-2.7
Interest rate shock	-1.4	-1.5	-1.5
Exchange rate shock	-1.6	0.7	0.9
Credit shock	-1.5	-2.1	-2.0
… of which indirect effect of exchange rate shock	-1.2	-1.3	-1.2
Allocation of profit (p.p.) [2]	2.2	2.0	1.9
Post-test CAR	**13.5**	**13.5**	**12.8**
… large banks	14.2	13.3	12.3
… medium-sized banks	11.1	14.6	15.8
… small banks	15.7	16.5	13.9
Capital injection (% of GDP) [3]	0.1	0.05	0.06
Proportion of banks with negative post-shock capital [4]	0.9	0.0	0.0
Effect on dividends and bonuses [5]	-99.9	-63.0	-65.6
Scenario II			
Total effect of shocks (p.p.)	-6.9	-5.4	-5.3
Interest rate shock	-2.8	-3.0	-3.1
Exchange rate shock	-2.1	1.0	1.2
Credit shock	-2.0	-3.4	-3.4
… of which indirect effect of exchange rate shock	-1.6	-1.7	-1.7
Allocation of profit (p.p.) [2]	2.6	2.6	2.4
Post-test CAR	**11.4**	**11.7**	**10.7**
… large banks	12.3	11.8	10.5
… medium-sized banks	8.5	12.8	14.0
… small banks	14.0	14.8	12.1
Capital injection (% of GDP) [3]	0.1	0.4	0.4
Proportion of banks with negative post-shock capital [4]	0.9	3.5	6.7
Effect on dividends and bonuses [5]	-100.0	-88.0	-97.8

Notes:

1) CAR: capital adequacy ratio, defined in accordance with the relevant CNB regulations.

2) Both scenarios assume that in the absence of shocks each bank would generate a profit (loss) equal to the average of the previous five years and that it would use any profit as a first line of defence against a reduction in its CAR.

3) The capital needed to ensure that each bank in the system has a post-test CAR of at least 8%.

4) Market share of banks with negative capital following the assumed shocks (in % of total assets).

5) In % of dividends and bonuses of the previous calendar year.

ANNEX 2: AN OVERVIEW OF THE COMPONENTS OF THE FINANCIAL INFRASTRUCTURE

CERTIS

CNB Clearing operates CERTIS (the Czech Express Real Time Interbank Gross Settlement system), which is the sole interbank payment system in the Czech Republic. The system processes all domestic interbank transactions in Czech koruna regardless of their value.

The system is based on the following principles:

- real-time gross settlement (RTGS, i.e. each transaction is processed and settled on-line in real time);
- direct participation by all commercial banks active in the Czech Republic;
- direct bilateral connections between the head offices of commercial banks and CNB Clearing;
- settlement on interbank payment system accounts maintained at the CNB (which also serve as minimum reserves accounts);
- irrevocability of all transactions accepted by CNB Clearing;
- no overdrafts permitted on interbank payment system accounts;
- the CNB provides interest-free intraday credit to commercial banks to cover their expected shortages of funds, collateralised by the bank's securities in the SKD system;
- uncovered payments are neither settled nor rejected, but held in a queue (with two priority levels) and the system tries to deal with them by the end of the accounting day;
- processing of different types of transactions (credit transfers, credit transfer cancellations, non-accounting direct debit requests, information requests);
- granting of overnight credit by the Czech National Bank (in the event of non-payment of intraday credit);
- only transactions in Czech koruna are processed at CNB Clearing;
- CERTIS operates under the Payment System Act; the set of CERTIS participants is defined in Article 38 of the CNB Act.

CNB Clearing communicates only with the head offices of commercial banks. Each bank has only one interbank payment system account with the CNB. This means that banks must process the data from their own branches internally and separate out transfers to other banks. Only these transactions can be transmitted to CNB Clearing. Internal transfers between individual branches of a bank are a matter for this bank and are processed in its network without any involvement of CNB Clearing.

Under bilateral agreements with the CNB, "third parties" may be participants with a special status. These third parties are financial institutions which are not banks but play an important role on the market, such as card payment clearing houses and companies responsible for the settlement of securities transactions. Third parties have no interbank payment system accounts with the CNB, but may (with the permission of the direct participants concerned) submit payment orders to CNB Clearing to transfer funds between direct participants (e.g. to settle net positions arising from card payment clearing or payments relating to stock exchange transactions).

No overdrafts are permitted on interbank payment system accounts. To ensure the smooth running of the payment system, the CNB gives banks the option of drawing collateralised intraday credit. No interest is charged on intraday credit and there is automatic spillover into the overnight marginal lending facility – Lombard repos – in the event of non-repayment at the end of the day. The interest rate applied to this facility is the Lombard rate.

If a payment system participant becomes insolvent, there is no danger of problems spreading to other participants through CERTIS, as the system allows for immediate checking of each transaction against the balance of the account to be debited. If there are sufficient funds on the account, the account is debited, the beneficiary's account simultaneously credited and transaction thereby completed. If there are insufficient funds on the account, the transaction is moved to the hold queue, where it waits until new liquidity arrives or until an appointed time, often the end of the settlement day, when a final attempt is made to settle the transaction.

SKD

The Czech National Bank is responsible for managing and operating the Short-term Bond System, which replaced the original TKD system on 9 December 2002. The SKD has a dual role: it is a statutory register of securities and it is the settlement system for the securities recorded therein. In the SKD, records are kept of the securities issued by the Czech Republic (i.e. by the Czech Ministry of Finance) with maturity of up to one year, the short-term securities issued by the Czech National Bank (CNB) with maturity of up to six months, and other bonds with maturity of up to one year (e.g. Czech Consolidation Agency bonds). All the bonds are issued in the Czech currency and in dematerialised form.

SKD participants are divided into two groups: agents and clients. Clients participate in the SKD's activities through their agents. A client is a legal or natural person that has an SKD security owner account agreement with the CNB. Bonds owned by the client are registered on that account. Each client may have one or more such security owner accounts in the SKD and has access to each of them via an agent specified in the agreement. At the end of 2003, there were 126 clients registered in the SKD. The agent must have either its own interbank payment system account with the CNB or an account with a bank that has such a payment system account. At the end of 2003, a total of 23 agents were registered in the SKD.

On auction day, information on the allocation of securities among the bidders (based on clients' orders placed through the point of auction) is entered into the SKD, as are the yields at which the primary sale will be executed in individual cases, in accordance with the procedure set by the issuer. On the issue date, the SKD undertakes the primary sale of the bonds. Intraday settlement finality is ensured by DVP (delivery-versus-payment) through the RTGS (Real-time Gross Settlement System). This involves the transfer of the securities from the seller's security owner account to the buyer's security owner account and the payment of the agreed purchase price by the buyer to the seller.

THE PRAGUE STOCK EXCHANGE (PSE) AND UNIVYC

The PSE was established as a joint-stock company in 1992 and trades in securities on the secondary market. It operates on the membership principle, its members being mostly banks, investment companies and securities dealers. It is overseen by the Czech Securities Commission (which is responsible for the regulation and oversight of the securities market in the Czech Republic).

A joint-stock company called Univyc was founded to undertake settlement and clearing of all trades executed on the PSE. Univyc does not have members of its own, but its services are used by PSE members as direct participants. Other entities may use the services of one of the direct participants.

Univyc executes cash settlement of trades by means of payment orders dispatched to CNB Clearing (CERTIS), to which it is directly connected as a "third

party". Within Univyc it is possible to settle trades in securities issues registered on the stock exchange and, in the case of OTC transactions, trades in issues registered only for settlement in Univyc. In the case of settlement of dematerialised securities, Univyc works in collaboration with the Prague Securities Centre, where it sends instructions to make transfers between the accounts of the final owners of the securities. Foreign securities are registered on Univyc's customer account in the international clearing centre Clearstream, of which Univyc is a direct participant.

The model whereby both operations in the settlement process take place within a set time limit is called "delivery versus payment". Some transfers can be settled through Univyc by "delivery free of payment". For such transactions, only asset settlement – i.e. the delivery of the securities – is realised through Univyc; cash settlement takes place outside Univyc.

As regards financial settlement, there are two types of Univyc members (direct settlement participants) – bank members (domestic or foreign financial institutions with a banking licence from the Czech National Bank) and non-bank members (domestic or foreign securities dealers without a banking licence). Bank members have a clearing account in CERTIS and the trades they execute are cash settled directly by means of this account. The account is then debited (settlement of a securities purchase) or credited (settlement of a sale) with the relevant amount. Non-bank members do not have a clearing account in CERTIS. Their trades are settled using a bank's clearing account. This bank becomes a "clearing bank" for the non-bank member and their relationship is governed by a contract. As part of the settlement process, the clearing bank's account is then debited or credited. The bank is notified in advance of the planned payment.

An Exchange Guarantee Fund (GFB) has been established to guarantee the settlement of accounts payable by Univyc members and to cover the risks arising from exchange guaranteed trades.

RM-SYSTEM
Besides SKD and Univyc there is a third securities settlement system in the Czech Republic, namely RM–System, which has been operating as an over-the counter (OTC) market since 1993. RM–System was founded during the "voucher privatisation" period under the Securities Act and is operated by the company which implemented the voucher privatisation process.

Unlike the stock exchange, the OTC market is not based on the membership principle. This means that on the OTC market investment instruments are not traded by members – usually securities dealers – but directly by the individuals interested in buying or selling them. Any natural or legal person may become a customer, regardless of whether or not they are a Czech national.

RM–System is a fully electronic securities market and works on the DVP principle. Credit and liquidity risk is eliminated by pre-trade validation, i.e. the blocking of the relevant securities on the relevant account at the Prague Securities Centre in the case of sell orders, and the blocking of sufficient funds on a cash account at a specific bank in the case of buy orders.

PRAGUE SECURITIES CENTRE
In the Czech Republic, the overwhelming majority of securities are registered on public markets in dematerialised form, i.e. as magnetic records stored by law at the Prague Securities Centre. The Centre also maintains the accounts of all owners of these dematerialised securities. Consequently, no trade in

dematerialised securities can take place without the Centre's assistance. The Centre's primary function is to keep a unified register of dematerialised securities and their owners. Besides the SKD, the Centre is thus the second securities registration centre in the Czech Republic.

Univyc and RM-System are linked to the Securities Centre and send it change of ownership instructions based on securities trades realised.

Under the new Capital Market Undertakings Act, a central depository is to take over the register from the Securities Centre. This depository has not yet been set up, but it is clear that the securities register maintained by the Securities Centre forms the foundation on which the central depository will be created.

INTERNATIONAL PAYMENTS
For international payments, banks use accounts with foreign correspondent banks or – in the case of branches of foreign banks – their own networks. Foreign banks use their own networks and the correspondent relationships of their head offices. In most cases, SWIFT is used for transfers. Where a bank in the Czech Republic receives an incoming koruna-denominated payment instruction to be credited from an account at another bank, the subsequent transfer is executed through CERTIS.

AFS	Association of Factoring Companies
AKAT	Capital Market Association
ALS	Association of Leasing Companies
APF ČR	Association of Pension Funds of the Czech Republic
BCBS	Basel Committee on Banking Supervision
BSIC	Banking Supervision Information Centre
ČAP	Czech Insurance Association
CAR	capital adequacy ratio
CBCB	Czech Banking Credit Bureau, a.s.
CEE	Central and Eastern European
CERTIS	Czech Express Real Time Interbank Gross Settlement System
ČKA	Czech Consolidation Agency
CNB	Czech National Bank
CRC	Central Register of Credits
ČS	Česká spořitelna
ČSOB	Československá obchodní banka
CWPI	construction work price index
CZSO	Czech Statistical Office
DVP	delivery versus payment
EC	European Commission
Erste Bank	Erste Bank der oesterreichischen Sparkassen AG
ESA95	set of statistical definitions and classifications of economic and statistical terms which is binding for reporting in the European Union
EU	European Union
EU12	euro area
FDI	foreign direct investment
FSAP	Financial Sector Assessment Program
FVA	fair value accounting
GDP	gross domestic product
IAIS	International Association of Insurance Supervisors

IES FSV UK	Institute of Economic Studies, Faculty of Social Sciences, Charles University
IMF	International Monetary Fund
IPI	industrial production index
IRI	Institute for Regional Information
KB	Komerční banka
KBC	KBC Bank N.V.
KCP	Czech Securities Commission
LT	long-term
MF CR	Ministry of Finance of the Czech Republic
MIT	Ministry of Industry and Trade of the Czech Republic
NACE	sectoral classification of economic activities
NPL	non-performing loan
OTC	over the counter
p.p.	percentage points
PGRLF	Farming and Forestry Relief and Guarantee Fund
PSE	Prague Stock Exchange
Q	quarter
RES	Business Register
ROA	return on assets
ROE	return on equity
S&P	Standard & Poor's
SG	Société Générale
SKD	Short-Term Bond System
SSS	securities settlement system
ST	short-term
UCITS	Undertakings for Collective Investments in Transferable Securities
ÚDDZ	Office for Supervision of Credit Unions
UNIS	Union of Investment Companies
VA	value added
WTI	West Texas Intermediate

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