NÁRODNÁ BANKA SLOVENSKA

Financial Stability Report

2005

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A Executive Summary

In terms of financial stability, 2005 was unquestionably a positive year for Slovakia. This related mainly to the strong macroeconomic development, which was in turn reflected in the financial results of enterprises and financial institutions, as well as in growth in real household income. Both the internal economy and the systemic conditions for future financial stability were strengthened.

This Financial Stability Report for 2005 is the third consecutive such annual report that the NBS has published for the professional community, and it is also the third to assert that financial stability is being sustained and has good prospects for the short term. At the same time, the report highlights potential risks that could in the medium- to long-term horizon adversely affect the functioning of the financial system. The external environment is given relatively extensive treatment. Its significance is growing along with the increase in the openness of the Slovak economy and also with its fuller integration into the international environment in terms of business, capital, political and security relations.

External conditions for financial stability

Financial stability in 2005 and its short-term outlook within the relevant external environment – whether that concerns developments in global markets, in the economy and financial sector of the euro area, or in euro area countries and the V4 region – may be judged predominantly positive. With strong growth in the global economy and commerce, enterprises and the financial sector have on the whole improved their income, profit and capital, which has in turn created greater capacity to absorb risks. On the other hand, major global imbalances, notably the US current account deficit and the global liquidity surplus, are increasing, and therefore creating the potential for sudden and far-reaching changes. Although opinions on the immediacy of this risk vary, increasing efforts are being made to address global imbalances with coordinated policy. The source of unease and a certain instability was and is particular commodity markets, principally the global oil market.

In EU economies and the EU financial sector, conditions for stability have improved

Economic development in Slovakia is largely determined by trends within the EU. The reason is the close economic, financial and political links, and the growing interconnection of labour markets. Slovakia's most important partners in the euro area are Germany, Italy and Austria, and investors from these countries own a substantial part of the financial institutions in the Slovak financial sector. In that light, it is positive that financial stability in the economies of these countries has continued and that several indicators signal a potential revival of economic activity, especially in Germany.

The V4 region has shown favourable development

The V4 economies are growing at a strong pace with relatively low inflation. On the other hand, however, growth in these economies is accompanied by an external imbalance. Its size is raising fears and especially so in Hungary, which faces the problem of a high general government deficit. The attendant spread of shocks within the region (regional contagion) continued in 2005, as did foreign investors' perceptions of the region. The correlation of exchange rates between the regional currencies increased, though this need not represent a permanent phenomenon. In future, the currencies of those economies that are making credible progress towards the euro area could become untied, and this could also be the case with Slovakia.

The nature of low interest rates and the global liquidity surplus is only partially structural. Inadequate risk assessment continues to pose a threat

Low interest rates and the global liquidity surplus have supported an increase in share prices. Despite positive recent development, stock markets remain highly sensitive to outlooks for global economic growth. Low long-term real yields on government debt alongside the current positive outlook for economic growth are creating a blurred picture of future development. They also result from the effect of structural factors, primarily the demand from institutional investors in Asia, the liquidity excess and the increase in dollar reserves, which lead back to the growth in oil prices. In 2005, the uncertainty and profit-seeking was seen in the appreciation of the US dollar against world currencies. In terms of addressing the global imbalance, this movement may be seen as counterproductive. Investor efforts to safeguard their profits by investing in risky assets are increasing the risk of assets being misvalued. This is indicated by the steadily falling and very low credit spreads. A further risk to financial stability is the increase in both real estate prices and the indebtedness of households. Although this is especially the case in the United States, the risks are also not insignificant in certain European countries (e.g. the United Kingdom).

Oil prices were high and have continued to increase

Future long-term rises in oil prices could have an adverse effect on global economic growth, even though advanced economies have so far proved highly resilient to their long-running increase. One of the important facts to emerge from 2005 is that other risks, for example, natural catastrophes and epidemics could have significant economic consequences and affect economic and financial stability.

The role of the EU banking sector in financial intermediation is declining. The insurance sector will have to face increasing competition and expected systemic changes

The EU banking sector has shown the positive effects of previous restructuring measures. Consequently, banks in the EU reported strong profits and good financial health in 2005. Although the outlook for the sector's performance is also favourable, several market and credit risks remain significant. A number of major challenges await the EU banking sector in the medium-term horizon, arising from their declining share in financial intermediation, from continuing consolidation, from the introduction of new regulation and from the expansion of the euro area.

Conditions for the financial stability of the EU insurance sector have improved despite major natural disasters. This has been supported by several changes, in particular by the transfer of part of the insurance and market risk to clients and by investing in stock markets (which are riskier). Yet the sector still faces certain problems, mostly related to low yields on investments, persisting strong competition in the non-life insurance sector, expected high costs for reinsurance[1] and the introduction of international accounting standards (IASs). The reinsurance sector has suffered losses, largely owing to natural catastrophes, and there is continuing uncertainty over future reinsurance claims. The sector's stability should, however, be ensured by rising reinsurance prices, expected stronger interest of insurance companies in reinsurance and the inflow of new finance from hedge funds.

Development of the Slovak economy in terms of its effect on financial stability

Both the macrolevel development of the economy and the development of the non-financial corporation and household sectors had a stabilizing effect in 2005. Economic growth was close to its potential, inflation was low, and labour market indicators improved significantly. In comparison with 2004, the effect of monetary policy in the economy was slightly loosened and the effect of fiscal policy was neutral. Profits of non-financial corporations were up and household disposable income increased substantially. Financial markets were free of any significant turbulences. As regards future risks, we see them mainly in the fast growth in household consumption, in the rising share

[1] *A consequence of introducing Solvency II.*

of variable rate loans and new loans with short-term fixation of rates, and in the uneven distribution of profitability in the corporate sector. This small open economy with high energy intensity is also adversely affected by sharply rising oil prices. Should this trend persist, it will be necessary to respond appropriately through fiscal and monetary policy.

Development of the domestic economic environment in terms of creating conditions for economic and financial stability was favourable in 2005

Economic growth continued to accelerate, which in turn provided the conditions for the profit generation and reserve creation in the corporate sector that is needed to sustain its financial stability. Profitability developed differentially, however – its growth is concentrated in industries with a monopoly or dominant position within the economy. Although the output gap was gradually being closed, the economy performed slightly below its potential. Wage costs increased substantially in 2005. The record low level of inflation was supported largely by an absence of demand pressures and appreciation of the nominal exchange rate. By contrast, the effect of cost factors, primarily energy prices and wages, was more pronounced than in the previous year. The external imbalance increased, albeit temporarily. This was related to an increase imports, especially for the investments of future exporters, though also to a rise in household consumption and higher commodity prices on world markets. The current account deficit was also increased by the repatriation of profits from past investments (FDI). To a greater extent than before, the deficit is financed by less stable short-term funds. Slovakia does, however, have sufficient foreign exchange reserves at its disposal to cover the short-term debt.

The effect of monetary policy on the economy, evaluated on the basis of the index of monetary conditions, was loosened

The NBS cut its base rate by 100 basis points to 3%. Monetary conditions were significantly affected by developments in the real exchange rate of the koruna. Even its nominal exchange rate strengthened against the single European currency. There was also a change in the implementation of monetary policy. At the beginning of the year, the NBS moved from implicit inflation targeting, to inflation targeting under the conditions of ERM II and an explicit inflation target for the years 2005 to 2008. On 28 November 2005 the Slovak koruna joined the exchange rate mechanism ERM II. This was a significant step on the path to euro area entry, which is planned for 1 January 2009.

The overall effect of fiscal policy on the economy was neutral

Financial stability was further supported by a consolidation of public finances. Despite the one-time adverse effect (the remission of foreign claims in the amount of 0.9% of GDP) and the poor financial results of the Social Insurance Agency, Slovakia in 2005 met the Maastricht criteria for public finances and reduced the indebtedness of the general government sector. The main factors behind this good result were higher tax revenues and low interest costs. Overall, the stance of monetary and fiscal policy on the economy may be said to have been moderately loosened and countercyclical.

The financial market was exposed to certain fluctuations during the year. These did not, however, represent a threat to financial stability

The decline in the central bank's base rate was naturally reflected in money market rates. The slope of the yield curve changed from inverse to standard. In comparison with 2004, the NBS's sterilization position increased substantially. The said changes occurred mainly as a consequence of fluctuations in the foreign exchange market, where the NBS made high-volume interventions against the appreciation of the koruna. The koruna's correlation with regional currencies increased during the course of the year and the effect of the V4 region on the koruna did not let up before the year-end. We expect that this could come about as the date of Slovakia's entry into the euro area approaches.

Business confidence as determined by business surveys increased

The services sector proved an exception. Although the profits of non-financial corporations rose, the

dual character of the economy was highlighted: on the one hand, there are enterprises (industries) with high and rising profitability, especially enterprises including foreign capital and enterprises in network industries; on the other hand stand enterprises (industries) which have been making losses for a number of years and whose losses continue to mount. The sharp increase in wages, looked at for the economy as a whole, was not a significant hindrance to profit growth; at the same time, cost competitiveness and profitability in terms of unit labour costs is, despite a deterioration, still among the best in the V4 region.[2] A major factor behind the cost competitiveness within the surrounding area and V4 region is the pace at which the nominal exchange rate is appreciating. This adversely affects those enterprises that have not been sufficiently restructured. The continuing cost competitiveness of industry as a whole has enabled enterprises to exploit production capacity to a sufficient extent. This is especially so with large enterprises and exporters.

The debtor position of non-financial corporations shows a declining trend

The trend over several years indicates that the financial health of enterprises is improving. Enterprises are at present financed from multiple sources – including commercial loans and intercorporate liabilities – and not only from corporate bank loans, although these also increased in 2005. The increase in foreign currency loans was particularly sharp, and the growth in medium-term and long-term loans accelerated. Besides the financing of investments, this was related to bringing financing in line with the duration of the production cycle.

Credit risk of enterprises abated

The corporate sector had a low volume of non-performing loans and default rate, while defaulting was most prevalent on loans with a smaller balance.

Households' positive expectations and favourable assessment of the economic situation increased

This was supported by the positive economic development, wage growth, decline in the unemployment rate, and increase in employment, which underpinned a rise in household consumption. This development was reflected in the rise in the consumer confidence indicator in 2005, which reached its highest long-term level.

Increase in household income supported consumption; household spending is tending to exceed the growth in household income

The overall creditor position of households is gradually weakening. In 2005, households did not have difficulty in meeting their liabilities. As regards particular risks, the household sector is not exposed to a significant exchange rate risk on the liabilities' side, since a negligible volume of household loans are denominated in foreign currency. The household sector does face a certain interest rate risk with the high and rising share of variable rate long-term loans. For a small share of households, the said risks could give rise to loan repayment problems. As far as banks are concerned, however, overall lending to the household sector has not so far posed a significant credit risk. This is confirmed by the low share of non-performing household loans (though that is also a consequence of the rapid rise in new loans) and results from the relatively low overall volume of loans and their average maturity period. Moreover, the growth in the economy and employment are creating the conditions to generate enough household income to cover household liabilities.

Household indebtedness is rising and some of the steps taken by banks are increasing the risk in the household sector

Household indebtedness remains low in comparison with the EU and loan repayments account for only 4% of gross disposable income. Competition could, however, lead banks into lending to lower-income households. Although the share of non-liquid household assets is rising, liquid, especially financial, assets predominate. The value of household assets is increasingly sensitive to market risks. Meanwhile, banks have a growing

[2] *The more detailed analysis at the level of industries (and enterprises) does not, however, urge caution, since it concerns labour-intensive industries employing a less-skilled workforce.*

tendency to transfer risks to households by, for example, increasing the share of loans with a fixed rate for up to 1 year.

Financial sector stability

The financial stability of the financial sector improved over the course of 2005. The main reasons for this were the strong economic growth, improvement in the financial position of households and enterprises, and the decrease in short-term credit risks. Market risks did not have an extreme effect and the banking sector had enough funds to cover them. As regards future development, attention should be paid to the fast growth in certain riskier assets. Stress scenarios show that lending under the current relaxed conditions represents a danger to the financial stability of the banking sector. Given the significant time mismatch between the maturity of assets and liabilities, the liquidity risk will also have to be monitored in more detail.
In the insurance sector, the conditions for financial stability were enhanced by the increase in premium written and the lower loss ratio in non-life insurance. Other segments of the financial sector likewise reported good parameters for financial stability. In 2005, pension fund management companies began full operation.

Client lending rose sharply, especially loans to households, non-banking financial companies and non-residents. The rise was underpinned by the favourable current and expected economic development

Corporate lending – in both koruna and foreign currencies – not only rose, but also the currency and term structure of loans were increasingly adjusted to the needs of enterprises. Strong competition among banks in this market segment led to a decline in interest rate margins. Household lending, in particular housing loans and to lesser extent consumer loans, increased sharply owing to the rise in both supply and demand. This lending is dominated by three banks. The competition in this market, which has attractively high margins, is reflected in the relaxation of lending conditions and the increase in housing loans other than mortgages. Although the volume of lending to non-residents increased by almost one half, its share of overall lending volume remains low. Lending to financial intermediaries, including cheap loans to banks' subsidiaries, also rose sharply. Such loans are sources of funds for instalment sale and leasing companies.

Foreign funds in banks increased sharply even though banks do not need them for operational purposes

The banking sector had sufficient domestic funds for its activities. The volume of non-resident deposits increased, however, by more than 100% and their share of client funds came to one quarter. This was largely related to transactions that banks made with the central bank in order to exploit the interest rate differential between the koruna and the euro. At the same time, the exchange rate risks in domestic banks are hedged by off-balance-sheet transactions.

Net profit of the banking sector increased by 16%

The annual ROE ratio increased from 12.7% to 13.4%.[3] The ROA ratio, by contrast, declined from 1.16% to 1.04%. Although large banks continued to make the bulk of the profit, their share declined, as did that of banks tied to their own banking groups. These reported a decrease in the interest rate margin on interbank transactions. Consequently, the profitability of interbank transactions fell to zero.[4]

Profitability was adversely affected by strengthening competition and increasing operating costs

Within the household sector, the average interest rate margin[5] increased, as did income from bank service fees and profitability. Profits were checked by the rising retail costs[6] and the relatively expensive funds from issues of mortgage bonds. We expect increasing competition to put further pressure on the margin. As regards corporate clients, the interest rate margin was substantially

[3] *Weighted by volume of assets.*
[4] *Part of the profit is thus transferred to foreign banks.*
[5] *The average interest rate margin (weighted by volume of assets) in regard to "retail" (households and non-profit organizations serving households) was 6.4%.*
[6] *Retail – households, self-employed persons and non-profit organizations serving households.*

lower.[7] Competition plays a role here, though so do lower costs for services. The decline in banks' interest income is being offset by the increase in non-interest income, especially bank service fees. Operating costs for the provision of services increased. The cost-to-income ratio rose to 68.6%, while the operational efficiency of smaller banks is even lower.

Capital adequacy has decreased but remains high

This was caused by the sharp growth in lending and more efficient risk management. Own funds were stable and of high quality.

The direct foreign exchange risk arising from exchange rate fluctuation is low in the banking sector

Foreign exchange transactions are frequently hedged with off-balance-sheet transactions. Another issue, however, is the level of the indirect risk arising from the effect of exchange rate fluctuations on the corporate sector. Large exporters, in particular, hedge part of this risk with imports as a matter of course. The interest rate risk is small also because assets and liabilities have a short maturity period. Stress scenarios have also shown that the effects of yield curve stressing on the performance of individual banks are small and only occasionally cause non-fulfilment of the capital adequacy ratio.

The liquidity risk relates to deposits and short-term funds of foreign banks

Liquidity ratios deteriorated over the course of the year. This is related to structural changes concerning deposits, with shorter maturities accounting for a higher share. Realistic stress scenarios[8] do not, however, indicate that a run on bank deposits or sudden pressure to sell government securities would substantially impair banks' liquidity ratios in comparison with historical fluctuations.

Profits and risk in the insurance sector improved

Total indemnity costs increased only marginally, by 0.9%, owing to the decline in indemnity costs in non-life insurance, by 5.1%. By contrast, insurance benefits in life insurance rose. Premiums written increased, especially in life insurance[9] and only slightly in non-life insurance. Even so, the ratio of premiums written to GDP is low (only 3.5%). The ceding of insurance to reinsurers declined. Technical reserves increased by 13% and they were invested conservatively.

Other financial sector segments reported satisfactory financial stability parameters

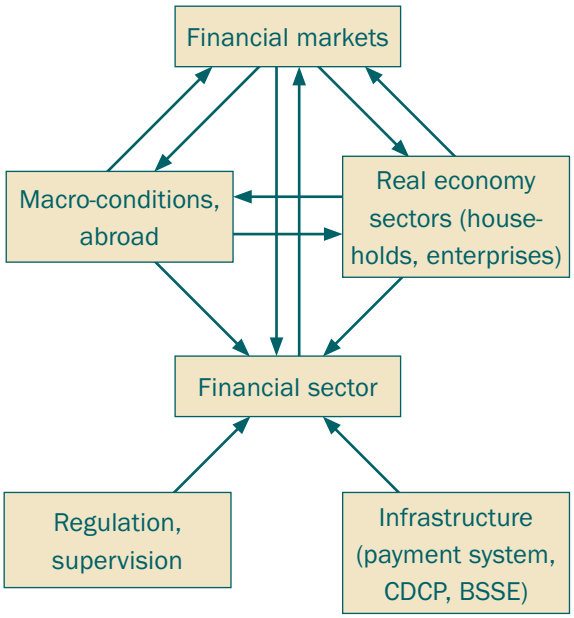
The capital adequacy of stock brokerage firms came in above the 8% limit. The number of such entities increased significantly owing to the European licensing system. This also applies to collective investment entities, but although their number increased substantially, the market is dominated by three asset management companies (their market share decreased from 81% to 77%). The activities of riskier funds increased at the expense of less risky funds offering low returns. The net asset value in open-end investment funds sold in Slovakia maintained its upward trend in 2005, and by the year-end it had increased by 77% to stand at SKK 123 billion. Pension savings are still in their early stages, recording faster than expected growth. Because of its high initial marketing costs, the pension savings sector made a loss in 2005.

[7] *On average (weighted by volume of assets) 2.4%.*
[8] *These stress scenarios respect the actual term structure of banks' assets and liabilities.*
[9] *This was affected by, among other things, the tax allowance.*

B Financial Stability Report

Understanding financial stability

The basic conceptual framework on which we base the assessment of financial stability in Slovakia is similar to that used in other open economies. The following chart sets out the basic connections which we have regard to when assessing financial stability.[10]



The financial sector plays a major role in the economy by operating as an intermediary between, on the one hand, temporarily free funds and, on the other hand, investment opportunities.

The stability of the financial sector is determined by the stability of the domestic and foreign macroenvironment, developments in the sectors of households and enterprises, and financial market trends. Vice versa, the financial sector has a feedback effect on the said sectors. The financial sector may subdue or increase any instability in its surroundings. Apart from assessing its stability (and the stability of the other sectors), it is therefore also necessary to examine the financial sector's capacity to subdue existing or potential instability.

External economic conditions and the stability of the external environment, including the stability of the foreign financial sector, have a determining effect on an open economy such as Slovakia's. The main role is played by prices on world commodity markets, demand on foreign goods markets and foreign competition. The stability of the foreign financial sector (especially that part of it which poses a contagion risk) is essential to the Slovak financial sector given the high share of foreign capital within it. As Slovakia is a small economy, it may only occasionally be expected that developments in Slovakia could have repercussions in the surrounding area. We therefore perceive developments abroad largely as an exogenous factor of developments in Slovakia.

The macroeconomic environment – the development of the economy and the setting of underlying policies – affects the creation of expectations and establishes the basic conditions for the activity of financial markets and the functioning of sectors. The economy's development is mainly characterized by growth, sustainability, and an internal and external imbalance. Policymaking is shaped largely by monetary conditions, the size of fiscal stimuli, and the prudence of supervising institutions.

Financial sector stability relies on the health of households, enterprises and the government –as the largest borrowers and creditors in the domestic financial sector. The analysis of their financial position therefore represents an important part of this report.

[10] *See also: the 2004 Financial Stability Report for the Czech Republic, Czech National Bank 2004.*

The fact is that financial sector stability is not by itself sufficient to ensure overall financial stability, which could be a consequence of the insufficient transfer of risk to other sectors. But it is a necessary condition, and the capacity to absorb risks and shocks is its basic function. That is why attention is also devoted to the question of whether the financial sector has sufficient conditions to stabilize the situation (its own and that of the economy as a whole).

An optimal and predictable regulatory framework and financial system infrastructure are a further condition of financial sector stability. Information from the analysis show that these parts of the financial system can make a substantial contribution to overall stability, but may also be a source of certain risks and instability.

Contents of the report

In line with the above, the report is presented with four key parts. The first part describes the external environment. The second part assesses macroeconomic development and macroeconomic policies, in particular monetary and fiscal policy. The third part covers developments in the sectors of households and non-financial corporations. The core of the report is contained in the fourth part, where we assess developments in the financial sector, especially in banks, and the risks attached to this development. This information is supplemented with basic information on the payment system and on financial market supervision. In two special annexes, we describe the stress-testing methods currently being used by the NBS and the latest situation in regard to the emerging sector of pension savings.

1 External conditions for financial stability

1.1 Economic developments in the international environment

Developments in the international environment, specifically in the global economy and international financial markets, are increasingly determining the conditions for financial stability at the level of individual countries. This is a result of the escalating international interdependence of economies and the fact that the global economic and financial links between individual market entities are more intensive. An assessment of the risks to and conditions for global financial stability is therefore a basis for assessing the (in)stability of national financial systems.

1.1.1 The global economy

Short-term risks to the stability of the global financial system are low because of strong growth in the world economy and world trade

Solid growth in world output and trade was a feature of 2005. Its main motor was the United States and Asia (especially China). The contribution of developed economies is expected to show further improvement this year owing to the predicted economic recovery in the euro area and Japan.

Amid favourable external conditions, enterprises and banks have further improved their income and increased their profitability. This has enabled them to generate enough capital to cushion against risks. Short-term risks to the stability of the global financial system were low in 2005 and declined in comparison with the previous year.

1.1.2 The EU and euro area

Economic growth based on exports

According to the latest available information from the European Commission (EC), GDP growth in the

Table 1 **World output and world trade volume** **(year-on-year growth in %, changes in p. p.)**

	2004	2005	2006[1)]	2007[1)]	*2006[2)]*	*2007[2)]*
World output	5.3	4.8	4.9	4.7	*0.6*	*0.3*
Developed economies	3.3	2.7	3.0	2.8	*0.2*	*-0.3*
USA	4.2	3.5	3.4	3.3	*0.2*	*-0.3*
Japan	2.3	2.7	2.8	2.1	*0.8*	*0.5*
Euro area	2.1	1.3	2.0	1.9	*0.2*	*-0.3*
European Union	2.5	1.8	2.4	2.3	*0.2*	*-0.2*
Emerging economies	7.6	7.2	6.9	6.6	*0.8*	*0.7*
Central and eastern Europe	6.5	5.3	5.2	4.8	*0.7*	*0.2*
Russia	7.2	6.4	6.0	5.8	*0.8*	*0.8*
Asia	8.8	8.6	8.2	8.0	*1.0*	*0.8*
China	10.1	9.9	9.5	9.0	*1.3*	*1.0*
World trade volume	10.4	7.3	8.0	7.5	*0.6*	*0.5*

Source: IMF World Economic Outlook, April 2006.
1) Current forecast.
2) Difference in comparison with the WEO of September 2005.

Table 2 **Real GDP growth and the annual rate of HICP inflation** **(year-on-year change in %)**

	GDP					HICP				
	2005	2006	2007	*2006*	*2007*	2005	2006	2007	*2006*	*2007*
	Spring forecast of May 2006			*Autumn forecast of November 2005*		Spring forecast of May 2006			*Autumn forecast of November 2005*	
Euro area	1.3	2.1	1.8	*1.9*	*2.1*	2.2	2.2	2.2	*2.2*	*1.8*
EU-25	1.6	2.3	2.2	*2.1*	*2.4*	2.2	2.1	2.2	*2.2*	*1.9*

Source: European Commission Spring Economic Forecast, May 2006.

EU and euro area[11] for 2005 amounted to 1.6% and 1.3%, respectively, which represents a slight slowdown in comparison with 2004. The pace of growth in the euro area fell from a robust 0.7% in the 3rd quarter of 2005 to 0.3% in the last quarter. However, soft indicators and surveys show that this represented no more than short-term volatility in GDP growth and that economic activity is on the rise. Given that external conditions are expected to be favourable in 2006, and that a further acceleration in world output and trade is projected, the EC forecasts that economic activity in the EU and euro area for this year will increase by 2.3% and 2.1%, respectively. Exports and investments should remain strong and the growth in private consumption should increase steadily. Within the EU-25, the fastest productivity growth will continue to be recorded in the Baltic countries, followed by the V4 countries.

High oil prices have been reflected in inflation figures, and this, together with the economic recovery, has compelled the European Central Bank to begin a cycle of monetary tightening.

German economy showing signs of recovery in 2006

The German economy reported stagnation in the fourth quarter of last year, after growing by 0.6% year-on-year in first and third quarters. The stagnation was caused by a sharp fall in domestic demand. Private consumption was biggest disappointment, declining as it did by 0.6% in comparison with the third quarter, which represented its largest drop since the beginning of 2002. As regards the recovery of the German economy, the key condition is growth in consumer spending. Economic growth will otherwise depend on export performance and therefore be vulnerable to any slowdown in the global economy. Consumer confidence surveys are currently sending positive signals about a recovery of the German economy in the first quarter of 2006. According to the EC's projection, the German economy should grow by relatively strong 1.7% in 2006.

1.1.3 Countries of the V4 region

V4 economies reporting strong and healthy economic growth

The strong economic growth of the V4 region continued in 2005, despite less favourable economic conditions – high oil prices and slow economic recovery in Western Europe. The Czech Republic recorded high growth of 6% against a backdrop of a continuingly strong inflow of foreign direct investment. In Hungary and Poland, the pace of growth declined in comparison with 2004.[12] Growth in the Czech Republic and Hungary was driven mainly by strong exports, and growth in Poland mainly by household consumption and investments. The economic growth of this region is expected to remain relatively strong in subsequent years – as far as this year is concerned, mainly because of better outlooks for economic growth in Western Europe and stronger domestic demand. Inflation in the region was kept under control in 2005.

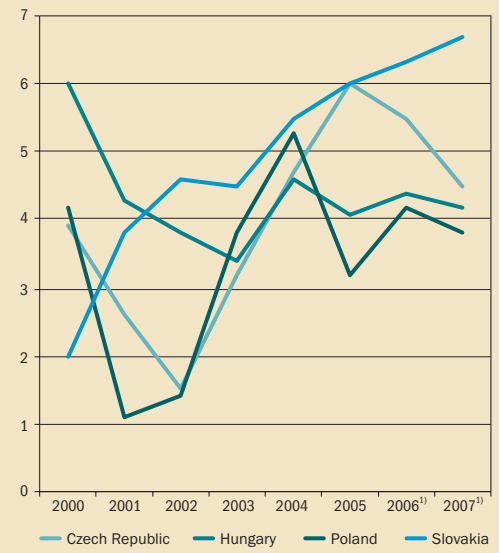
The external imbalance persists; its size is causing concern particularly in Hungary

A common feature of these countries is a deficit on the balance of payments current account. In the Czech Republic and Poland, the deficit for 2005

[11] *European Commission: Spring Economic Forecast, May 2006.*

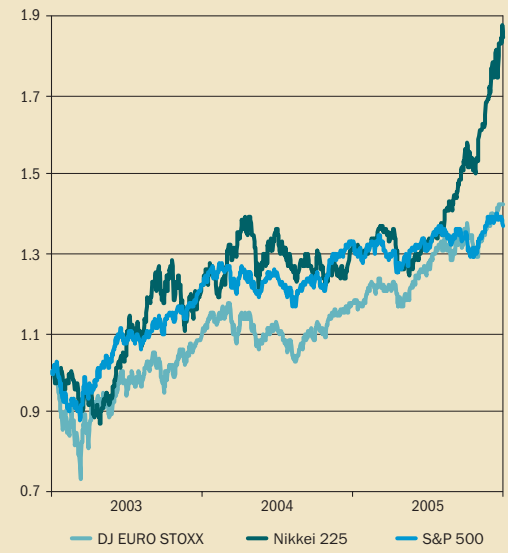
[12] *Since developments in Slovakia are analysed in detail in the second part, this part focuses on the other V4 countries: the Czech Republic, Hungary and Poland. For the sake of comparison, the charts and tables also include data for Slovakia.*

Chart 1 **Year-on-year GDP growth (constant prices)** (%)



Source: IMF.
1) Forecast.

Chart 2 **Performance of stock markets (index, January 2003 = 1)**



Source: http://finance.yahoo.com.

Table 3 **Current account deficits of V4 countries (percentage of GDP)**

	2002	2003	2004	2005	2006[1)]	2007[1)]
Czech Republic	5.6	6.3	6.0	2.1	2.3	2.3
Hungary	7.1	8.7	8.8	7.9	8.2	7.5
Poland	2.5	2.1	4.1	1.6	2.5	3.1
Slovakia	8.0	0.9	3.5	8.8	6.4	5.5

Source: IMF.
1) Forecast.

was modest and showed a substantial correction in comparison with 2004. The favourable development in the Czech Republic is a result of strong export growth, which is expected to continue the following year. In Poland, the improvement was largely attributable to a lower deficit on the balance of goods and a larger surplus on the balance of services and transfers (the main contributor to which was the substantial inflow of funds from the EU budget). In Hungary, the current account ended the year with a relatively high deficit of 8% of GDP. Nevertheless, the conditions of Hungary's external (im)balance improved, primarily as a result of a substantial decline in the deficit on foreign trade in goods.[13] Hungary and Poland are, however, expected to see repeated worsening of the trade balance and consequently of the current account. In Hungary's case, this is also related to the high general government deficit, which cannot be sustained in the medium term.

1.2 Developments in international financial markets

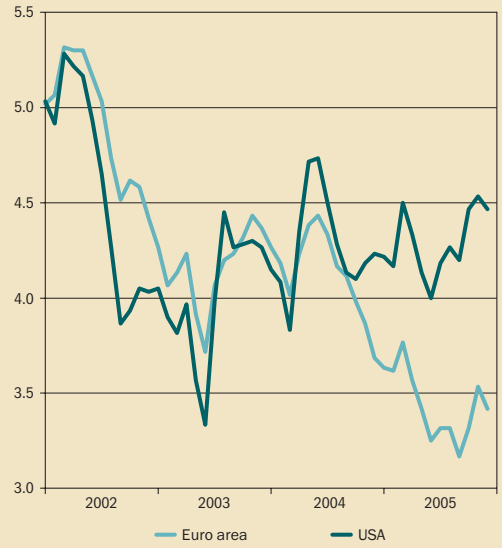
1.2.1 Stock markets

Despite their recent positive development, stock markets remain highly sensitive to outlooks for global economic growth

The performance of the global economy has been supported by real interest rates that remain low in

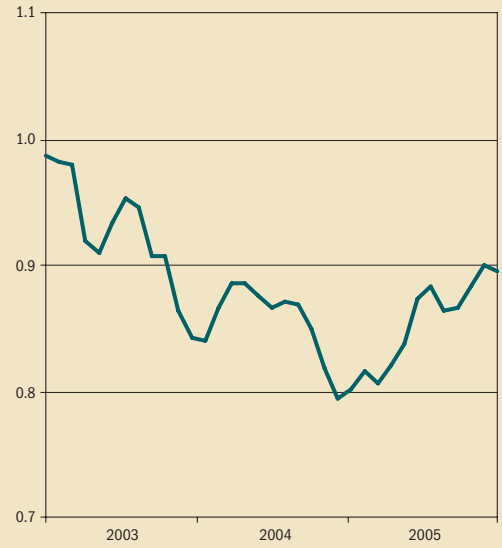
[13] *There are, however, doubts about the accuracy of the foreign trade data and especially the import data. Since EU accession, the figures for Hungarian imports have probably been undervalued, which means that the actual external imbalance of Hungary could be greater.*

Chart 3 **Yields on long-term government bonds (monthly average in %)**



Source: International Financial Statistics, IMF.

Chart 4 **Nominal exchange rate of the euro against the dollar (monthly average, January 2003 = 1)**



Source: International Financial Statistics, IMF.

comparison with historical levels. Along with the liquidity surplus and strong growth in corporate income, these have been reflected in the increase in share prices. In 2005, the Dow Jones EURO STOXX rose by 21% and the Nikkei 225 went up 40%. The S&P 500 Index increased by only 3.8%, as investors were less attracted to US shares owing to the more favourable outlook for corporate-income and profitability growth in the Europe and Japan. The volatility of stock markets continued to be relatively low in 2005, though uncertainty about the US and therefore world economies did at times give rise to its short-term increases.

1.2.2 Bond markets

Low long-term yields on government debt alongside the current positive outlook for economic growth are partly caused by structural factors

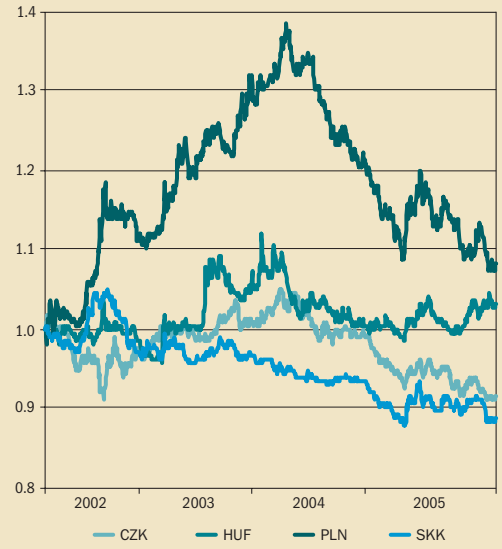
Returns on government debt in 2005 increased slightly in the United States, remained basically unchanged in Japan, and declined markedly in Europe where they reached a lowest ever level in September 2005. Low long-term yields and rising share prices gave conflicting signals about economic development. The gradual tightening of monetary conditions and expectations for its continuation led to a flattening of yield curves in the euro area and the United States. The current term structure of yield curves in the United States and euro area is determined by factors affecting demand for government bonds with longer maturity. These factors include:

- strong credibility of central banks in combating inflation and, as a result, fewer market concerns about inflation growth;
- expectations for no more than a modest slowdown in global economic growth, based on the low volatility of US growth over the past 20 years;
- the continuing abundance of liquidity and related search for yield;
- structural demand for long-term government securities from institutional investors and Asian central banks;
- high net savings in corporate sector,[14]
- large dollar reserves in oil-producing countries.

An increase of real long-term rates in the medium-term horizon could bring about slowdown in global economic growth. The said factors with their partially structural character are, however, altering the traditional cyclical pattern of long-term interest rates. This is adding an element of uncer-

[14] *The latest statistics already indicate, however, rising demand for corporate loans in the United States and Europe.*

Chart 5 **Nominal exchange rate of V4 countries' currencies against the euro (daily data, 1 January 2002 = 1)**



Source: Eurostat.

tainty to expectations for economic growth and inflation, which is in turn hindering the projection of a suitable scenario for monetary-political decision-making.

1.2.3 Foreign exchange markets

The US dollar appreciated in 2005, but this movement was contrary to what is needed for addressing global imbalances

Between reaching its strongest ever level in February 2002 and the end of 2004, the US dollar weakened against the euro by 36%. During 2005, however, the dollar began to strengthen against several major currencies, including the euro. Ironically, market forces were at work in depreciating the euro against the dollar, mainly in response to rising US rates and the persisting disparity between economic growth in the United States and Europe. Moreover, an increase in real oil prices over the long term is, all else being equal, leading to appreciation of the dollar.[15] In 2005, in contrast to preceding years, the factor of continuing oil price growth could have outweighed concerns that the United States has an excessive current account deficit. As regards the dollar's movement, not being what is needed to establish equilibrium, any sudden and substantial weakening against the euro and other currencies represents a significant risk to the global economy and its financial stability.

Currencies of V4 countries reported volatile development and their appreciating trend slowed down

The region's exchange rate development in 2005 was volatile. The currencies of the V4 countries, except for Hungary, continued to strengthen against the euro, albeit at a substantially slower pace than in 2004. The Polish zloty recorded the largest appreciation against the euro, as it had in 2004, by gaining 5.5% over the course of the year (compared with 13.5% in 2004).[16] The Czech koruna's exchange rate against the euro strengthened by 4.6% (6.0% in 2004), while the forint depreciated by 2.8% (in 2004 it appreciated by 6.2%).

1.3 Developments and risks in the EU financial sector

1.3.1 EU banking sector[17]

The EU banking sector reported strong profits and sound financial health in 2005

The strong performance of the banking sector in 2005 is a result of favourable economic conditions and, to a lesser extent, effects of past restructuring. The favourable economic conditions were laid by the growth of the global economy, good conditions in capital markets, strong increase in household and corporate lending, the spike in non-interest income, and the decline in provisions. Banks' solvency consequently improved, which was reflected by an upgrade in the credit ratings of some entities. This positive development can also be observed in market indicators – in the last quarter of 2005, the share index for the EU banking sector rose far above the overall market index.

[15] *Bénassy–Quéré, A., Mignon, V.: Oil and the Dollar: A Two Way Game. La Lettre Du CEPII, no. 250, November 2005.*
[16] *The National Bank of Poland does not seek to influence the zloty's exchange rate by making interventions on the foreign exchange market, but rather lets the market determine its development.*
[17] *According to analyses and data from the European Commission and ECB.*

Although the sector's performance has a favourable outlook, the market and credit risks are not negligible

The favourable macroeconomic outlook underpins the positive expectations for banking sector performance. Growth in corporate lending, including loans to small and medium-sized enterprises represents a welcome opportunity for the diversification of income sources and credit risk. Strong competition and low long-term interest rates are forcing banks to offset declining interest income by expanding lending volume and focusing on non-interest income. Credit risks are related to the high indebtedness of households, which are (especially in the less creditworthy segment) so sensitive to shocks affecting interest rates, their disposable income, or real estate prices. Strong exposure of banks to the real estate market which is showing signs of overheating in certain EU countries increases their vulnerability. This is mainly the case under conditions of relatively low provisions that need not correspond to the existing risks. In most EU countries, however, banks are anticipating an increase in non-performing loans and some countries saw an increase in provisions in the second half of 2005. Market risks are centred on the yield curve development and banks' exposures to non-regulated financial institutions. It would pose a challenge to solvency if long-term rates were to remain low over a longer period. Risk management must face growing exposure of large banks towards hedge funds and, increasingly, towards private equity funds. Moreover, non-interest income from these exposures is strongly cyclical and far more volatile than income from traditional lending transactions. Further risks for the EU banking sector, which have even increased, stem from global development trends, namely, global imbalances, search for yield and oil price developement.[18]

The EU banking sector expects several key challenges in the medium term

More and more changes in the financial intermediation process can be observed. Retail clients are increasingly saving with non-banking financial institutions or investing directly in financial markets. Enterprises are obtaining their funds directly from the market. Banks therefore face the challenge of rationalizing the conventional method of financial intermediation in order to acquire a share of directly invested finances. The EU banking sector also faces the challenges of its continuing consolidation, introduction of new regulatory requirements (Basel II, IFRSs), and the adoption of the euro in certain Member States. These structural changes could in the short-term increase the demands on resources (financial and personal) and thus affect even the performance of the sector and the economy. In the longer term, however, they will be seen in the improved capacity for risk assessment and the increased efficiency of resource allocation.

1.3.2 EU insurance sector[19]

Conditions for the financial stability of the EU insurance sector have improved despite major natural disasters

Insurance losses incurred as a result of natural disasters in 2005 reached a record levels and their repercussions were felt mainly by insurers in the United States and European reinsurers. The life insurance segment reported continuing growth in income from premium written, mostly owing to strong growth in unit-linked products.[20] Observable among products with guaranteed rates of return is the adjustment of their conditions to market rates, which in turn resulted in lessening of the balance-sheet vulnerability of life insurance companies. Premium written also rose in the non-life insurance sector. Some non-life insurers recorded an increase in insurance claims owing to the flooding that affected central and eastern European in summer 2005. The insurance sector also reported a rise in investment income because of the better performance of stock markets. In seeking to increase investment income, insurance companies began to widen their exposures to stock markets. Nevertheless, these still fell short of the 1999 level. The

[18] *These risks will be discussed and analysed in greater depth in part 1.4.*
[19] *According to analyses from the European Commission and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS).*
[20] *These are types of life insurance products where part of the premium paid by the client is invested in financial markets and the client bears the investment risk.*

European insurance sector is well capitalized, has stable solvency rates, and is increasing its profitability, and this despite the high indemnity costs. Therefore the stock index of the EU insurance sector increased in 2005 and at the year-end was hovering above the overall market.

Mixed outlook for the reinsurance sector

The sector was hit by large losses caused by hurricanes in the United States. Consequently, some reinsurers had to adjust their profit forecasts, while other managed to meet them with extraordinary income from the sale of own shares. The sector's resilience was supported by effective risk management techniques and a strong capital base. Credit rating downgrades were few, though some firms did have their credit outlook changed from stable to negative. Although European reinsurers are financially stable, there is uncertainty in forecasts for underwriting and insurance benefit results. That said, the increase in reinsurance prices, expected regulatory changes related to the introduction of Solvency II (which will probably raise interest among insurers in reinsurance), and the inflow of funds (especially from hedge funds) should over the short term help to ease fears that reinsurers have insufficient capacity.

The EU insurance sector also faces key challenges and risks

The most important risk to the solvency of insurance companies is the long period of low and even falling rates, which could as well continue in the future given that its cause has a partially structural nature. This situation has led to several risk mitigating measures: reducing the maximum guaranteed rate to as low as zero in certain exceptional cases, using interest rate derivatives, extending portfolio maturities by the purchase of ultra long-term government bonds, transferring the market risk to clients through unit-linked products. Further solvency risks are posed by the strong competition, especially within non-life insurance, which is bringing premiums down to below the level of the corresponding risks. In some countries, there are similar concerns in regard to reinsurance. Given the limited capacity in reinsurance, the price of reinsurance is growing but owing to the strong competition, insurance companies are not able to fully pass on the higher costs to clients. Again for reasons of capacity, the coverage of certain risks may be reduced or some risks may even be excluded from reinsurance coverage. The main challenges facing the insurance industry include the effects of new regulatory measures (Solvency II and IASs) on costs and volatility in financial statements and increasing life expectancy, which could over the longer run have an adverse effect on the reserves of insurance companies.

1.4 Medium-term risks from external conditions

- Large global imbalances and their sudden adjustment through exchange rates and interest rates.
- High oil prices and their impact on economic performance.
- Possible misvaluation, or underestimation, of the risks of high-yielding assets.
- Growing real estate prices and household indebtedness in the United States and euro area amid the current change in the credit cycle.
- Challenges and risks for the EU financial sector.
- V4 risk – regional contagion and contagion caused by a change in investor sentiment towards developing countries, largely influenced by changes in global liquidity.
- Other risks of the economic and financial system.

Large global imbalances and the risk of their sudden adjustment is increasing

The risks to financial stability arising from the current account imbalances in key world economies are continuing to grow. On the one hand are countries with large current account deficits – primarily the United States[21] – and on the other hand are countries with large surpluses and accumulated foreign exchange reserves – China, Korea, Japan, and recently the main oil exporting countries. These imbalances have been a cause of concern for several years already, and the size of the US current account deficit has reached

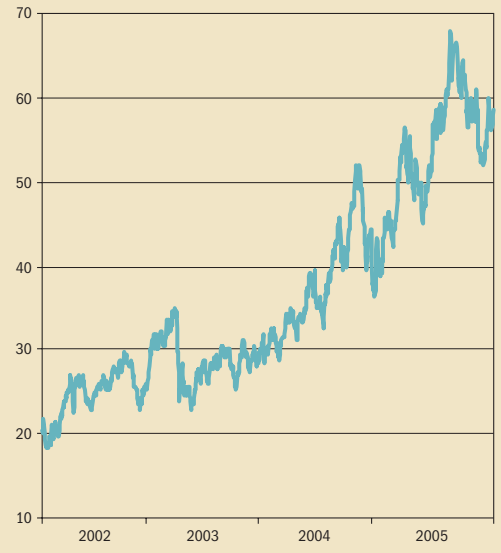
[21] *These also include Australia and New Zealand, but their economies are small within the context of world capital markets.*

record levels.[22] Since this development is unsustainable over the long term,[23] it is increasingly likely that they will be sharply corrected through large movements in the US dollar's value and in long-term interest rates. This would probably result in a global recession and disturbances in financial sectors. Market forces may, even gradually, bring the situation to a sustainable level, though the risk would be significantly reduced by greater international coordination of policies.

From the view of global economic growth and financial stability, the most suitable solution to the imbalances involves the "shift" in domestic demand from the United States to countries with current account surpluses. The ongoing and gradual tightening of monetary policy by the Federal Reserve System could support this. This would, however, require significant support mainly from a reduction of the US fiscal deficit, structural reforms in the euro area and Japan (i.e., in countries with the greatest potential to offset the decline in private demand in the United States), and investment growth in developing and low-income countries. Then there is the necessary gradual correction in the financial sector, taking the form of depreciation of the US dollar against foreign currencies through the progressive and transparent loosening of the exchange rate regimes of newly industrialized East Asian economies with currencies strongly undervalued against the USD,[24] and through possible auxiliary intervention in favour of the euro. The countries should, conversely, refrain from a wave of protectionism that would ultimately threaten the whole global economy.

Oil prices remain high – their higher than expected increase could adversely affect global economic growth

Chart 6 **Oil prices (Brent, daily data USD/barrel)**



Source: Reuters.

Oil prices continued to rise in 2005[25] and showed volatile development. The increase in euro oil prices in 2005 was also adversely affected by the euro's weakening against the USD. According to the European Commission, the prices of Brent crude should remain high at an average of 68.9 USD/barrel. In comparison with 2005, the prices should increase by 27.6%.[26] The risk to global inflation and economic growth from higher oil prices have so far been limited, with developed economies having lower raw material demands than in the past and the favourable effect of the prices of marketable goods from Asian exports. In case of further substantial rise in oil prices it is, however, quite unlikely that their secondary effects on consumer prices would continue to be relatively small. In such a case, the higher than expected increase in inflation and the

[22] *In 2005, the US current account deficit amounted to around 6.5% of GDP (1.5% of world GDP), representing the highest US deficit for which figures are available. Over the course of a few years, the United States has gone from being the world's largest creditor country to the largest debtor country. The anomaly is that these imbalances are continuing unsustainably amid relatively low interest rates and without any significant increase in the risk premium.*

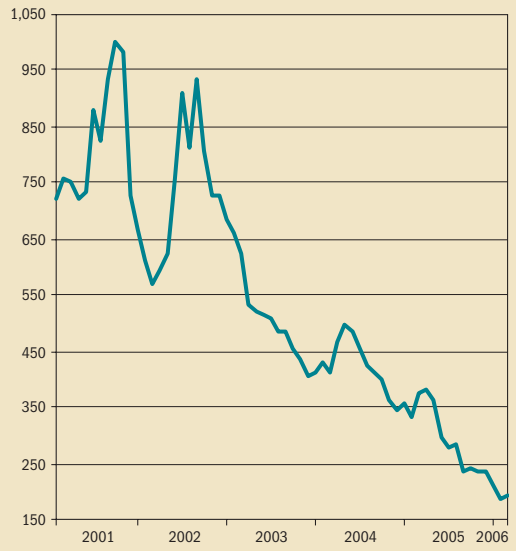
[23] *According to several economists, however, this is a natural development in regard to the growth in foreign trade at the corporate level and also owing to need of Asian central banks to accumulate reserves. In their view, the current trends are sustainable over the medium term.*

[24] *In July 2005, the Chinese Government announced after more than a year of discussions a revaluation of the renminbi (RNB) by 2.1%. The People's Bank of China changed the RNB's peg from the USD to a basket of currencies. The original fluctuation band for the RNB's movement against the USD was kept at 0.3%. In September 2005, the fluctuation band for the RNB's daily movement against the basket currencies other than the USD was changed to 3%. With the RNB's undervaluation projected at 20-25%, this measure by the Chinese side represented no more than a symbolic step towards addressing global imbalances.*

[25] *The main factors behind oil price growth are: rising demand from China and India, insufficient building of extraction capacity, political instability in oil-exporting countries (Iran, Iraq, Venezuela, Saudi Arabia, Nigeria), insufficient processing and transport capacity.*

[26] *Spring Forecast, May 2006.*

Chart 7 **J P Morgan EMBI Global Spread (monthly data, basis points)**



Source: Bloomberg.
Note: J P Morgan EMBI Global Spread – difference between yields on government bonds of emerging economies, denominated in USD, and yields on comparable bonds issued by the US Government.

increase in inflation expectations could lead to a stronger than expected rise in interest rates in the United States and euro area. This would adversely affect global economic growth, stock markets and bond markets.

The risk of asset misvaluation persists

In conditions of low long-term interest rates over the past several years and a narrowing difference between short-term and long-term rates, especially in the United States, investors are bolstering their positions in more risky assets in order to ensure the necessary rate of return. If asset prices and credit spreads in recent years have more been the result of the investors' search for yields and the abundant liquidity, and they do not correspond to the changing fundamentals, the vulnerability of the financial sector increases. Although market volatility is low at the moment, the materialization of the said risks (a sudden and unexpected move in interest rates and a sharp adjustment of exchange rates in response to global economic imbalances, and/or weaker than expected growth in the event of a further unexpected increase in oil prices) could see it rise. With a sudden change in market perceptions of risks, the resulting depreciation of portfolios – large in both extent and impact (on a large number of financial institutions) – may bring about a certain destabilization of the international financial system.

The fast growth in real estate prices and household indebtedness represents a mounting risk to financial stability

Although prices of residential real estate are rising in many countries, they have already peaked in some and their growth has slowed year-on-year in others. Real estate prices in the United States continued to rise at a fast pace in 2005 and therefore represented a key driver of housing investments, growing household consumption, and consequently economic growth. On the other hand, rising real estate prices in the United States led to a lower level of savings and increasing household indebtedness.[27] Household debt is also at record levels in the EU. Households are using an increasing proportion of their disposable income to service their debts. In regard to the current growth in the share of variable rate lending, households are becoming more financially vulnerable as a result of their sensitivity to declining income and/or rising base rates. Under such conditions, a sudden correction in the real estate market represents a specific risk to economic growth (owing to a decline in demand) and, through deterioration of household credit capacity, a risk to the financial stability of the countries concerned.

Based on the development in 2005, we assume that the risk of regional contagion is still present, though its intensity is declining

The V4 countries last year reported strong and, in terms of structure, healthy economic growth. There were no signs of the economies overheating and inflation developed favourably. The more substantial external imbalance is a quite common and natural phenomenon for economies going through the process of transformation and economic catching

[27] *Household indebtedness also increased because of the expanding utilization of housing equity withdrawal. This is a phenomenon where the aggregate rise in mortgage loans in the household sector exceeds net spending on residential real estate. The net cash flow thus generated can lead to an increase in household private consumption.*

up. All the V4 countries have this type of economy. The current external imbalance is predominantly financed by a strong inflow of typically stable foreign direct investment. Nevertheless, the long-term and, especially in Hungary, large external imbalance represents (in conjunction with external fluctuations) a significant risk factor for monetary stability, and that is why it needs to be addressed with appropriate policies. Public finances is the most problematic aspect of the region. The credibility of plans for their consolidation vary, and the same is true for the countries' plans for euro adoption. Consequently, risks inherent in each country are perceived differently, which has been reflected in credit rating changes. Although the forint was the most vulnerable of the region's currencies on the foreign exchange market in 2005, the correlation between daily movements of exchange rates in the V4 region remains quite strong. Nor can it be excluded that the V4 region – which in the view of foreign institutional investors, falls within the group of eastern European emerging economies – will in the event of a materialization of the risks in the external environment, and especially if there is a reversal in the conditions of the global liquidity surplus, face risks arising from the change in investor sentiment in regard to emerging economies in general.

Risks to the stability of the EU financial system are low in the short term

The EU financial sector faces further specific risks (high household indebtedness, overvaluation of real estate prices, strong competition in the banking and insurance sectors, and underestimated risks) and challenges (the introduction of new regulatory instruments). Given also the expected turnaround in the credit cycle, the said risks could even increase. Sectors are, however, reporting improvement in performance and a strong capital position, and have at their disposal more refined risk management techniques. Financial stability in Slovakia is not therefore threatened by immediate risks from economic and financial developments in the EU or euro area.

Other risks must also be reckoned on

Other risks to financial stability are independent of macroeconomic and financial development. They are the consequences of isolated and hardly foreseeable events. Terrorist attacks, wars, natural disasters and epidemics could give rise to short-term but serious disturbances in real and financial sectors. Their long-term adverse effect could result from rising uncertainty, risk aversion, and declining consumer and investor confidence.

2 Slovak economic development in terms of the effect on financial stability

2.1 Overall development of the Slovak economy

In terms of creating conditions for economic and financial stability, the domestic economic environment developed favourably in 2005

Economic growth continued to accelerate, which in turn provided the conditions for the profit generation and reserve creation in the corporate sector that is needed to sustain its financial stability. The financial stability of the domestic environment was also supported by the government through continuing consolidation of public finances. Low inflation indicated an absence of domestic demand pressures, though the effect of cost factors, especially energy prices, was pronounced in comparison with the previous year. Although the external imbalance increased, its partial interconnection with the creation of new production (and export) capacities, soon to be launched, means that it can be expected to decrease.

The exercise of monetary policy by the NBS underwent a change. Slovakia's ambition to enter the euro area in 2009, and the related necessity of meeting the Maastricht criteria in the period 2007-2008, led the NBS to change from implicit inflation targeting to inflation targeting under the conditions of ERM II and the setting of an explicit inflation target for the years 2006–2008.[28] In order to increase the transparency of its policy and to influence the inflation expectations of economic entities, the NBS began to publish medium-term inflation projections on a quarterly basis. Slovakia made a further move towards entering the euro area when the Slovak koruna joined the exchange rate mechanism ERM II on 28 November 2005.[29] The country's positive economic development and clear course, supported by specific steps, was reflected by the upgrading of Slovakia's rating by the credit rating agencies Moody's, S&P and FITCH.

The acceleration of economic growth to 6%[30] was related to the increase in domestic demand, while net exports made a negative contribution. The increase came largely in investment demand, mainly owing to the sector of non-financial corporations creating fixed investments in industrial production. Domestic consumption also rose, supported by an increase in real wages and employment. Given the government's intention to reduce the general government deficit, general government consumption made only a limited contribution to domestic demand.

The economy performed slightly below its potential

The economy was, according to NBS estimates, in a slightly negative output gap that began to close at the end of the year, as is indicated by, in particular, growth in wages and in real unit labour costs, slightly faster employment growth, a decline in unemployment, and an increase in profits of non-financial enterprises.

[28] *The NBS set the target for the year-on-year rate of inflation, as measured by the Harmonized Index of Consumer Prices (HICP), at 3.5% ± 0.5 percentage points as at December 2005, below 2.5% for December 2006, and below 2% for December 2007 and 2008.*

[29] *The central parity of the koruna against the euro was set at SKK 38.4550. The lower compulsory intervention rate is 32.6868 SKK/EUR and the upper rate is 44.2233 SKK/EUR.*

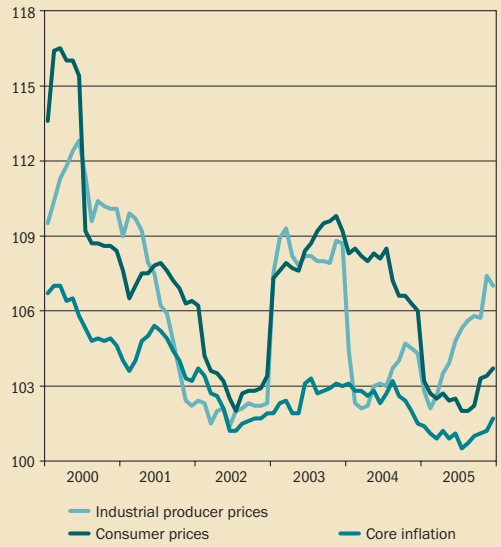
[30] *As revised GDP data were not available at the time of compiling the Financial Stability Report, the GDP figures used later in the text are prior to revision. According to revised data from the Slovak Statistical Office (ŠÚ SR), GDP growth for 2005 stood at 6.1%.*

Consumer price inflation reached an all-time low

The rate of harmonized inflation reached an annual average of 2.8%, representing the lowest level since the establishment of the Slovak Republic. This was a result of the slower increase in energy prices and fuel prices, as well as the decrease in foodstuff prices. Despite the economy's dynamic growth, consumer prices did not reflect the excessive inflation pressures from the demand side, with the rate of core inflation (inflation excluding energy prices and non-processed foodstuffs) represented only 1.2%. Overall HICP inflation at the year-end (3.9%) was marginally within the upper limit of the NBS inflation target, set in the NBS Monetary Programme up to 2008.

The higher growth in industrial producer prices reflected the inflationary effect exerted by prices of raw materials and prices of electricity, gas, steam and hot water. By contrast, the slower increase in manufacturing product prices (with the exception of refined oil products) slowed down the growth of the aggregate price index.

Chart 8 **Consumer prices and industrial producer prices (index, same period a year earlier=100)**



Source: Statistical Office of the SR.

The external imbalance deepened

The trade deficit of SKK 76 billion reflected the effect of rising commodity prices as well as imports of large technological units by foreign investors, related to the construction of new production capacities in the automotive sector. The trade balance deficit deepened the external imbalance as did the deficit on the income balance, caused by reinvested profit payments and dividend payments. In the end, the current account deficit stood at 8.8% of GDP. Although the deficit does not as yet represent a problem for Slovakia as regards its financing, attention should be paid to the changing structure of financing, where the deficit is being covered less by foreign direct investment and more by short-term funds.[31]

Economic growth was positively reflected in the labour market situation

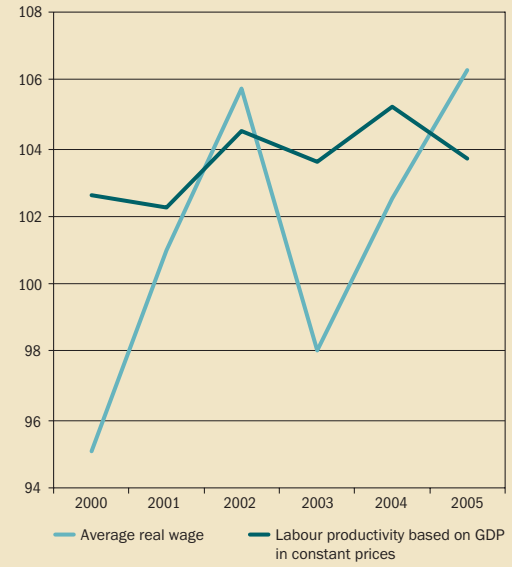
In the labour market, there was increased demand for workforce, owing to the increased pace of employment growth and fall in the unemployment rate. The average number of employed people in 2005 rose by 2.1%, according to a sample labour force survey, while the average rate of recorded unemployment declined by 2.7 percentage points to 11.6%. This positive trend is also confirmed by a sample labour force survey showing that the unemployment rate fell year-on-year to 16.2%. Employment growth is expected to be further supported by investments in infrastructure, possibilities for employment abroad and the implementation of projects co-financed with EU funds.

Real wages increased at a faster pace

Although the increase in nominal wages slowed in comparison with the previous year, real wages grew at a faster pace, with the previous rate of inflation being used as the basis for setting wage requirements in collective negotiations and with the inflation rate being low. The pace of productivity growth in the national economy therefore lagged behind the increase in real wages. According to NBS forecasts,[32] the disproportion between the growth in real wages and in labour productivity should not pose a greater threat to inflation, given

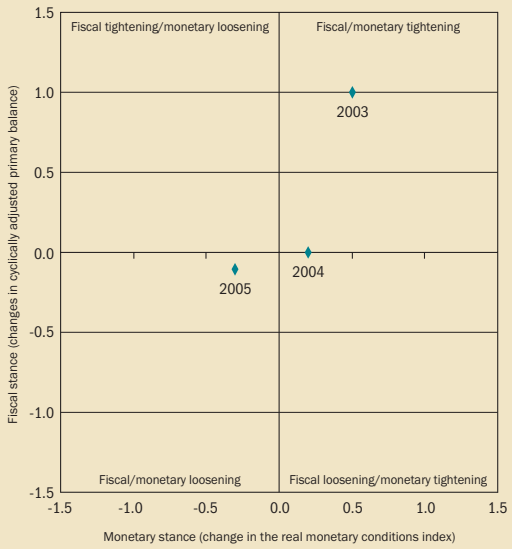
[31] *The foreign exchange reserves held by NBS at the end of December 2005 amounted to 102.4% of Slovakia's short-term foreign debt.*
[32] *NBS Medium-Term Forecast P1Q-2006, P2Q-2006.*

Chart 9 **Labour productivity and real wages (index, same period a year earlier = 100)**



Source: Statistical Office of the SR.

Chart 10 **Policy-mix 2003 – 2005**



Source: Ministry of Finance of the SR, NBS.

the expected strengthening of economic activity and a slowdown in real wage growth.

Monetary policy was loosened in 2005

In 2004, the overall stance of monetary policy according to the real monetary conditions index (RMCI)[33] was moderately restrictive, as the index's interest rate component was loosened in order to limit the restrictive effect of the exchange rate component. In 2005, however, its overall stance was slightly loosened. The loosening of monetary conditions was related to the low level of interest rates, while strengthening of the koruna against the euro continued to have a tightening effect.

The policy mix slightly supported the creation of a pro-growth environment

The policy-mix in 2005 may be assessed using a fiscal stimulus (the changes in the cyclically adjusted primary balance)[34] and a change in the

Table 4 **The real monetary conditions index and the fiscal stimulus**

	2003	2004	2005
RMCI[1)]	0.5	0.2	–0.3
– interest rate component	–1.1	0.2	–0.5
– exchange rate component	1.3	0.1	–0.2
Fiscal stimulus	1.0	0.0	–0.1[2)]

Source: NBS.
1) Year-on-year changes.
2) In 2005, the cyclically adjusted primary balance was modified to include the effect of pension reform costs, relations with the EU and the effect of vendors stockpiling cigarettes.

[33] *The monetary conditions index is a weighted average of the deviations in short-term real interest rates and the bilateral real exchange rate from equilibrium trajectories.*

[34] *The fiscal stimulus measures the contribution of public finances to the year-on-year change in aggregate demand. So as to eliminate fluctuations related to the business cycle (changes in private sector demand, changes to fiscal instruments) which affect the current fiscal position, the cyclically adjusted (structural) general government balance is estimated. The balance is also adjusted to exclude interest payments (being the result of past decisions) so that it reflects only the current effect of public finances. In Slovakia, the cyclically adjusted primary balance has been further modified to exclude the effect of relations with the EU and the costs of pension reform.*

real monetary conditions index. In comparison with 2004, monetary stance was slightly loosened and the effect of fiscal policy was neutral.

The slightly loosened monetary conditions had a supportive effect on economic growth (closing the output gap). Fiscal policy took advantage of the favourable conditions to reduce the general government deficit, and, considering the small change in the cyclically adjusted primary balance, its effect on economic activity was broadly neutral. The policy mix therefore created conditions supportive for economic growth and the maintaining of macroeconomic stability.

Fiscal policy was directed at meeting the main medium-term target, at reducing the general government deficit up to 2007 to below 3% of GDP (including pension reform costs), and also at increasing the effectiveness and efficiency with which public funds are used. This in turn supports the introduction of programme and medium-term budgeting.

Slovakia achieved the reference value for the Maastricht public finance criterion

Public finances ended 2005 within the budgeted deficit. The general government deficit (excluding the pension reform costs) stood at 2.9% of GDP. This meant Slovakia did not exceed the reference value of the public finance management criterion. The better results in public finance management were supported by unexpectedly higher tax revenues (owing to Slovakia's stronger economic growth), higher non-tax income (dividend payments) and a decline in expenditure. The budget deficit of the Social Insurance Agency and the remission of claims abroad had a reverse effect. The lower absorption of EU funds meant that co-financing costs were lower than projected, which was also reflected in the results. Had pension reform costs been taken into account, the general government deficit would have been 3.6% GDP.

The gross public debt according to the Maastricht criteria decreased in 2005 to 34.5% of GDP. Domestic debt represented 83% of the total government debt, and most of the debt (83%) was long term. In order to cover the general government debt, government bonds in the amount of SKK 67 billion were issued in 2005.

Because of the possibility to use State Treasury funds, the projected requirements for general government financing decreased. This along with surplus liquidity in the market created conditions for the lowering of interest rates. Interest costs of new issues could therefore be reduced – the average yield to maturity on issued government bonds declined to below 3% per annum. The market situation allowed for the maturity of government debt to be extended (the average maturity in 2005 came to seven and a half years).

2.2 Slovak financial market development as regards financial stability risks

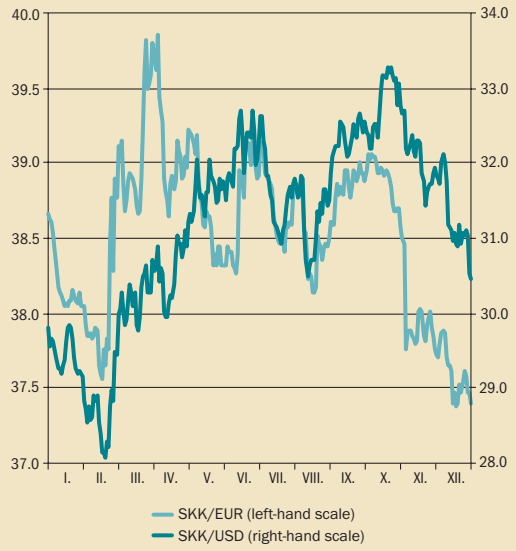
Developments in the Slovak financial market in 2005 were affected by both external and internal factors, and key stimuli to market changes were provided by the foreign exchange market. The most significant external factor was the turnaround in the development of interest rates on world financial markets, especially in the United States, and their reflection in the V4 region. The financial markets of the region and Slovakia were also affected by economic development in the V4 region, in particular, uncertainty concerning the progress of the region's other countries (apart from Slovakia) towards the euro area. The internal factors which played a role included the stance of monetary policy, public finance development and the government's debt and liquidity management, the koruna's entry into ERM II, and rising inflation expectations at the year-end. The said events and changes affected market expectations, the stability and term structure of interest rates, the stability of the koruna's exchange rate against the euro, and the shape of the yield curve for government bonds.

2.2.1 Foreign exchange market

The foreign exchange market was volatile, while the Slovak koruna continued its appreciating trend vis-à-vis both the euro and US dollar

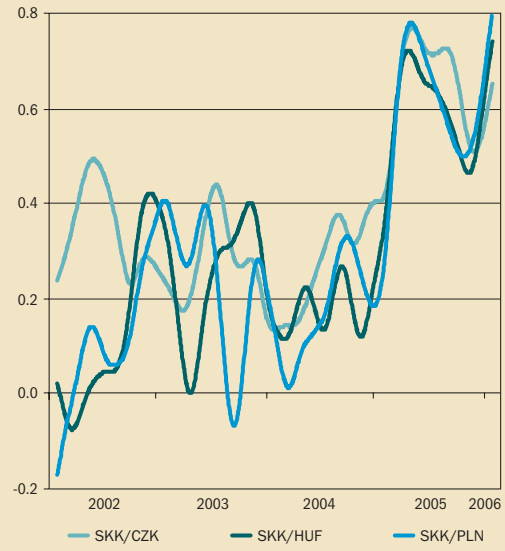
The foreign exchange market was relatively volatile in 2005. The Slovak koruna continued its long-

Chart 11 **Slovak koruna exchange rate in 2005**



Source: NBS.

Chart 12 **Correlation between the SKK/EUR exchange rate and the rates of other currencies in the V4 region[1)]**



Source: ECB, NBS calculations.
1) Daily exchange rate changes against the euro; H-P fitered 22-day moving correlations.

time appreciating trend against the euro reference currency, as did currencies of other countries in the regions. The attractiveness of the V4 region in 2005 was again based on low interest rates in the euro area and the expected appreciation of the exchange rate, with the continuing interest rate differential supporting an inflow of short-term capital. Against the dollar, the koruna gradually moved into a depreciation position, though it strengthened on average over the year.

The NBS judged at the end of 2004 and the beginning of 2005 that the exchange rate appreciation was excessive. Subsequent foreign exchange interventions (over a period of approximately two months, the NBS bought EUR 3.02 billion on the foreign exchange market) only had a short-term effect owing to the market's strong conviction that the koruna's exchange rate would strengthen.

Events in March 2005 showed the fragility of the domestic foreign exchange market. The stimulus for change came from the increase in interest rates in the United States. An outflow of assets was seen first in the Polish market, and the subsequent weakening of the Polish zloty gave rise to a similar movement in currencies and markets of other countries in the region. This development showed the koruna's susceptibility to events in neighbouring countries. The weakening that occurred during September and October had partially "regional" causes, though certain domestic factors also played a part. In both cases, the NBS intervened in support of the koruna. The total balance of interventions in 2005 amounted to EUR 2.49 billion.

Surprise entry into ERM II caused the exchange rate to appreciate

Slovakia entered ERM II on 25 November 2005 (for the foreign exchange markets, it effectively joined on Monday 28 November). The central parity for the exchange rate was set at EUR/SKK 38.455[35] with a standard fluctuation band of 15%. The early entry into ERM II came as a considerable but welcome surprise to the foreign exchange market. This was reflected on the next trading day, the Monday, when the koruna strengthened significantly by 2%. The koruna continued to appreciate up to the end of the year, when it stood at close to its peak level of March 2005.

[35] *Current market exchange rate of the koruna against the euro at this time.*

Box 1 Correlation between the Slovak koruna and other currencies in the V4 region

In 2005 there was a change in the correlation between the daily changes in the exchange rate of the Slovak koruna against the euro and changes in the exchange rate of other currencies of the V4 region against the euro. Whereas before 2005 this correlation moved in a range of 0.2 – 0.4, in 2005 it increased substantially and moved in the 0.6 – 0.8. After the Slovak koruna entered ERM II, it recorded a temporary and slight decrease (to approximately 0.6), but then rose back to the original higher levels (around 0.8).

Chart 12 shows that the "regional correlation of the Slovak koruna" came about gradually – until 2004, only the correlation with the Czech koruna was particularly stable. Since 2004, the mutual correlations have stabilized in a range from 0.2 and have gradually increased. This indicates that the fact that ever more investors view the Slovak financial market and V4 region as a whole, and so far it seems that not even Slovakia's entry into ERM II has changed that. It should be stressed, however, that some time will be required before a final evaluation can be made.

By joining the EU, the V4 countries began to implement a policy whose ultimate aim is the adoption of the euro. Although the likely date of the euro changeover in each country has still to be settled, this situation has been supported by the **ever stronger correlation between all the currencies of the V4 region in 2005** and not just the Slovak koruna. The mutual correlation between the currencies of the V4 region fluctuated over the course of 2005. This was related to, among other things, uncertainty created in the political environment (for example, the results of parliamentary elections in Poland) and insufficient fulfilment of the criteria for joining the euro area. This fluctuation was partly caused by Slovakia's entry into ERM II, which was accompanied by the expectation that the Slovak koruna would become "detached" from the V4 region. This expectation was not met by the end of 2005.

The correlation between the koruna and currencies of the V4 region persisted even after entry into ERM II

It was expected that, following entry into ERM II, the Slovak foreign exchange market would gradually break free from its strong correlation with, in particular, the Polish zloty and Czech koruna. This expectation is not, however, being borne out over the short term.

The mutual link between the Slovak koruna and other currencies of comparable countries is unlikely to diminish until it becomes certain that Slovakia will join the euro area on 1 January 2009, or unless fluctuations of the koruna's exchange rate hit a certain limit jeopardizing the fulfilment of the exchange rate stability criterion.

2.2.2 Interbank money market

Money market interest rates recorded substantial changes. The NBS base rate fell by 100 basis points

The interbank market had a large liquidity surplus after the NBS made repeated foreign exchange interventions at the beginning of the year in order to weaken the Slovak koruna, as well as with the rejection of bids at repo tenders and the absence of an NBS-bill auction. This situation signalled the expected cut in interest rates and was the reason why rates were reduced to their lowest ever level. The overall yield curve for the money market moved downwards to under 2.5% and the shape of the yield curve gradually began to lose its inverse character.[36] Expectations based on the raising of US interest rates in March substantially weakened the Slovak koruna, and then the overall money market yield curve began to increase, beginning with growth in shorter maturities. The increase in rates was also affected by rising inflation expectations.

At the beginning of the second half of the year, the stabilisation of rates was disrupted firstly by external events – economic recovery in the euro area and the results of Polish elections were reflected in a rise in interest rates. Later, they were also af-

[36] *Among the factors to affect the character of the yield curve was the expected decline in interest rates following entry into the euro area.*

fected by NBS statements on mounting inflationary pressures. A temporary turnaround was recorded at the end of November when Slovakia entered the exchange rate system ERM II. The decline in interest rates was brought to a halt, however, by the publication of NBS opinion on the closing of the output gap and on possible overheating of the economy in 2006 and by the ECB's decision at the end of the year to increase rates by 25 basis points.

The NBS sterilization position continued to increase

The amount of surplus liquidity sterilized in 2005 represented a daily average of SKK 399.2 billion (SKK 226.6 billion in 2004). The largest inflow of liquidity occurred in the first quarter of the year owing to the repeated interventions that the NBS made on the foreign exchange market against the Slovak koruna. Liquidity further increased by the transfer of funds from the State Treasury's maturing time deposits held with the NBS.

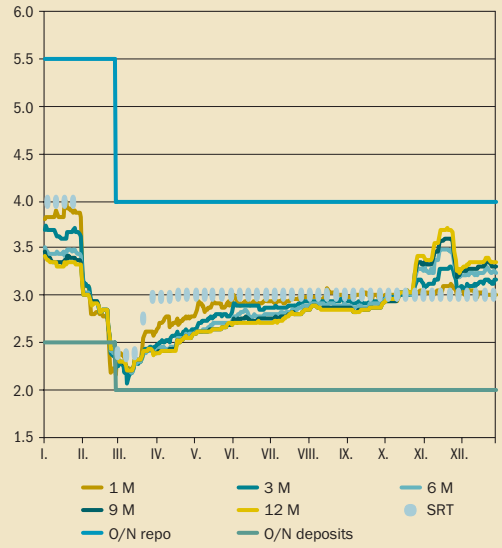
2.2.3 Capital market

Favourable development of the state budget and a change in the method of deficit financing reduced government demand

Significant factors in the market's development included the favourable development of the state budget (the year-end deficit in cash terms represents only around half of the approved figure), the financing of the state budget deficit from State Treasury funds, and a new method of placing Treasury bills on the market.[37] These factors substantially reduced government demand (through ARDAL) for short-term funds from the financial market.

In 2005, government bonds in a total amount of SKK 67.2 billion were placed on the primary market through American auctions. Besides continuing tranches of active issues from 2004, a new zero-coupon issue with a seven-year maturity was also introduced on the market. As regards trading on the primary and secondary markets two government bond issues with a four-year maturity became

Chart 13 **Money market interest rates (BRIBOR) in 2005** (%)



Source: NBS.

key. Interest in the longest 14-year issue came, as in 2004, mainly from insurance companies, and commercial banks purchased it mostly for their investment portfolios. Foreign investors in the government bond primary market accounted for a higher share than in the previous year. The acceptance of their demand in auctions was higher than that of domestic investors, which may be a reflection of their more realistic price bids.

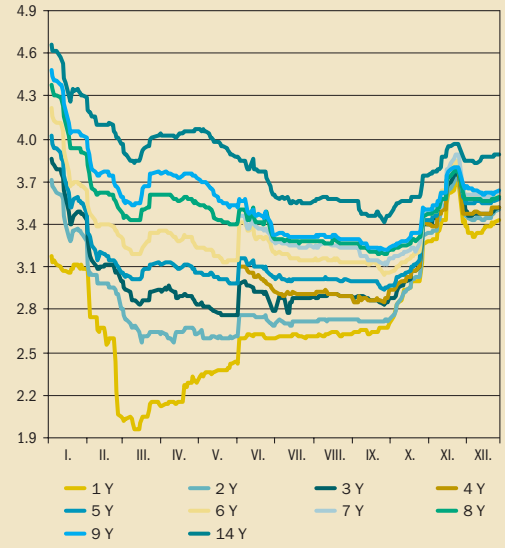
Slope of the government bond yield curve decreased

To a greater extent than in previous years, yield movements were affected by events in the Euroregion. The movement in government bond yields was affected not only by market changes but also by a methodological change – the 12M BRIBOR was set as the one-year benchmark. This gave a substantially more sensitive response to such matters as decisions on NBS repo tenders or changes in NBS interest rates.

For reasons similar to those which applied to the money market, development of government bond yields was volatile. A substantial change occurred

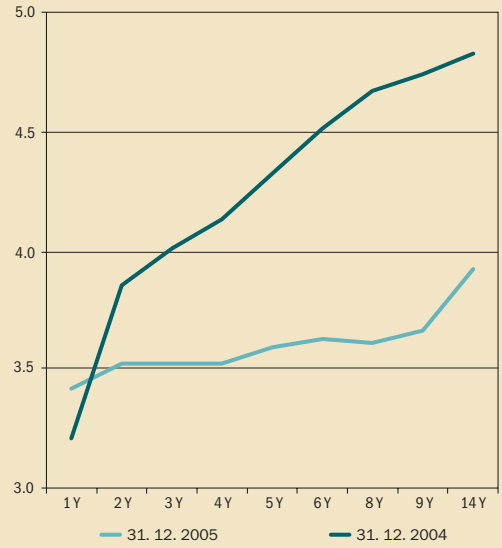
[37] *In the first stage, ARDAL issued Treasury bills into its own portfolio, and then, in the second stage, auctioned them off to investors. Among other things, this reduced the issuing of surplus Treasury bills.*

Chart 14 **Benchmark government bond yields in 2005 (% p. a.)**



Source: NBS.

Chart 15 **Shift in the bond market yield curve (% p. a.)**



Source: Ministry of Finance of the SR.

at the end of November when Slovakia entered the exchange rate mechanism ERM II and the Slovak koruna appreciated significantly as a result. Foreign investors responded by showing greater interest in Slovak financial assets, which brought about a decline and subsequent stabilization of bond market yields.

The low rate of capitalization continues. The capital market is represented mainly by the bond market

The capital market in Slovakia continued in 2005 to have the lowest capitalization and the lowest amount of concluded transactions in the central European region. The market capitalization of listed shares at the year-end represented only 10.02% of GDP. Bond transactions amounted to SKK 999.7 billion. The stock exchange decided at the beginning of the year to stop publishing the SDX bond index, which had been fully replaced by the SDXGroup (SDXG) indices.[38] The total amount of transactions in equity securities stood at SKK 2.1 billion. The Slovak share index SAX was volatile in 2005, and made an overall gain of 26.5%.

2.3 Risks from the macroeconomic environment and from financial markets in Slovakia

- Different development of wages and productivity in the long-term horizon.
- Future direction of fiscal policy.
- Risk of regional contagion.
- Effect of rising oil and energy prices on inflation expectations.

Economic growth helped strengthen financial stability, and the domestic macroeconomic environment does not in the short term represent a risk to financial stability

Attention should, however, be paid to developments in regard to maintaining correspondence between growth in real wages and growth in real labour productivity. In the case of their long-term mismatch and the pass-through of wage growth into excessive

[38] *The SDX Group is a proportional index based on comparing the present capitalization of a bond and its initial value. The initial value of the index, equivalent to 100 points, is tied to 7 January 2004. The index has two components: price and development. The price index compares the market prices of a selected set of debt issues (base issues) with the market values of the same set as at the initial day. Besides fluctuations in market prices, the index tracks the capital yields of the index's set of base issues and compares them to the value on the initial date when the index was introduced.*

consumption growth, there would have to be an appropriate response to the situation through fiscal and monetary policy. But considering the NBS forecast, this is for the moment a low risk.

The direction of fiscal policy is important

In the fiscal sphere, it is necessary to continue with consolidation in order to ensure economic stability and long-term sustainability of public finances. A potential risk is uncertainty over the nature of the fiscal policy of the new government that emerges from the 2006 elections. The scope for fundamental change is, however, restricted by the obligations arising from Slovakia's accession to the EU and Slovakia's course towards joining the euro area. These progressive steps were set out in a binding document – the Convergence Programme.

The financial market did not, except for a short period, represent a significant source of instability

Future new trends or stimuli are most likely to emerge on the foreign exchange market, which has seen an increase in the dependence of the regional market on the sentiment of global investors, a strengthening of the correlation between the exchange rate of the koruna and that of regional currencies and a rise in the volume of short-term capital. A sudden change of sentiment in global market (impacting the V4 regional market) represents a risk, as does any uncertainty or slowdown in the progress of Slovakia or the V4 region towards the euro area.

Inflation expectations need to be held down

The accentuating effect of cost factors on price-setting and on the development of inflation expectations could pose a problem for monetary policy; in the event of substantial growth in inflation and inflation expectations, it would have to, in regard to its inflation targets, look at a further monetary restriction.

3 Non-financial corporations and households

3.1 Developments in the non-financial corporations sector

Business confidence, except in services, has been developing favourably

The strengthening of business confidence was reflected in the rising indicators of business surveys. The industrial confidence indicator moved within the development intentions of previous years. A significant improvement was, however, recorded by the construction confidence indicator, which moved throughout the year at levels above the long-term average. The retail confidence indicator registered an increase in optimistic sentiments up to above-average levels. The services confidence indicator underwent a different development, and a paradoxical one given the growth in domestic consumption in 2005, as respondents overall evaluated their business situation, demand development and the expected trend in prices less favourably than they had in 2004.

Profits of non-financial corporations continued a rising trend also in the second half of 2005, but the fact that industries with dominant enterprises have the highest profitability became a more pronounced problem

Non-financial corporations reported a profit before tax[39] of almost SKK 221 billion, which represents an increase of 16.4% in comparison with 2004. In the industry structure of non-financial corporation profit, the share of manufacturing is seen to be declining at the expense of the share of service industries. Although manufacturing retained the highest share of the generated profit (33.1%), its share fell by 3.3 percentage points in comparison with the previous year. The industry retaining the second highest share in the generation of non-financial corporation profit was the production and distribution of electricity, gas and water (21.1%). The problem of the highest profitability being concentrated in industries with dominant enterprises became more pronounced (see Box 2).

The favourable financial results in the corporate sector (including both financial and non-financial enterprises) is further confirmed by information on tax declarations for fiscal 2005 (submitted by 31 March 2006), which indicates a 16% increase in the number of entities paying legal persons' income tax, as well as a 24% rise in tax liability.

Sharp wage growth was not a significant obstacle to competitiveness

The significant growth in wages in 2005 reflected the increase in unit wage costs (i.e. wages as share of nominal output), but it did not restrict enterprises in their scope for profit generation. Although the Slovak economy became less competitive in the euro area market, measured by the real exchange rate on the basis of unit labour costs, Slovakia still has one of the strongest positions among the V4 countries (see Box 3).

Non-financial corporations were able to utilize production capacity to a sufficient extent

The utilization of production capacities was sufficient and averaged around 84%, according to the responses given by industrial enterprises in business surveys. The level of capacity utilization was related to the size structure of enterprises, with larger enterprises using more of their capacity in comparison with small enterprises. Stocks of finished products were judged to be adequate by the vast majority of respondents.

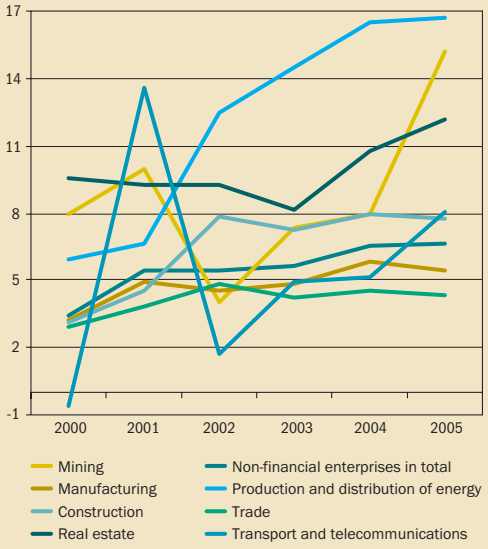
[39] *According to data from the Statistical Office of the SR.*

Box 2 Profitability and inflation

Profitability of non-financial corporations

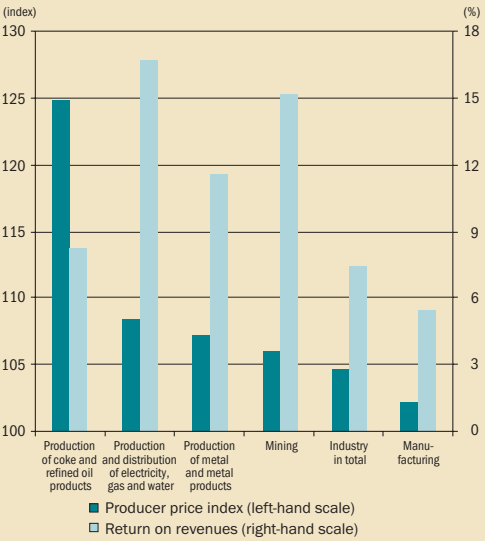
In the first half of 2005, the non-financial sector showed a year-on-year increase in return on revenues (to 7 %), but this growth was not sustained. The profitability of the non-financial sector increased only slightly year-on-year (from 6.55% to 6.63 %) and did so only as a consequence of significant year-on-year growth in profit volume in selected service industries. Costs rose faster than income not only in manufacturing, but also in construction and trade. In the energy industry (production and distribution of electricity, gas and water), the return on revenues recorded sharp year-on-year growth in the first half of 2005, but this was not sustained even though there was an increase in the differential between the profitability of this industry and the profitability of non-financial corporations in total. The energy industry remains the most profitable industry in the non-financial sector.

Chart A **Return on revenues of the non-financial sector (gross profit/revenues) (%)**



Source: Statistical Office of the SR.

Chart B **Producer Price Index and return on revenues in selected industries in 2005**



Source: Statistical Office of the SR, NBS calculations.

The volume development of generated profit and profitability in non-financial enterprises indicates the emergence of a certain imbalance in the development of the non-financial sector, notably the growth of selected industries at the expense of others. As far as trade is concerned, the development may be explained by increasing competition. The decline in the profitability of manufacturing and construction probably has another reason, however. This development may be partially explained by the current creation of new investments, where the returns will not be reflected in higher profits until several years after the investments are made.

In manufacturing, it could be generally considered (given that transport equipment production accounts for the majority share) that the main reason is the change in production structure and the related temporary decrease in output and profits. But transport equipment production was not the only industry to record a significant year-on-year decline in profits in 2005; so did leather processing and the manufacture of leather goods, and the clothing and textiles industries. Alongside the decline in profits in the said industries, a slowdown in profit growth may be seen in a majority of manufacturing sub-industries. Here the notable development was in the production of coke, refined oil products and nuclear fuel, where a year-on-year decline in profits resulted in lower profitability. This industry's return on revenues continues, however, to be among the highest within manufacturing.

Increase in industrial producer prices

Given that manufacturing is demanding on material and energy, it is logical to seek the causes of this sector's current developments mainly in terms of rising costs.

Despite the substantial slowdown in consumer price growth in 2005, industrial producer price growth ac-

celerated to 4.7%. The main price rises were in the energy, metal and mining industries. A highest ever increase in prices was recorded in one industry – the production of coke, refined oil products and nuclear fuel.

As Chart B shows, the industries with the highest growth in prices are those with the highest profitability. It may therefore be said that selected industries are slowing down growth in the others. Besides affecting the development of these industries, this was also probably reflected indirectly in construction – the prices of materials and products used in construction rose sharply year-on-year.

If the above-average development in certain sectors were a result of their growing competitiveness and output volume, or if the growth in prices of their output included a sharp increase in value added, then this development would not risk increasing the internal imbalance. But the said selected sectors with above-average and, in some cases, constantly rising profitability are characterized by a low degree of competition and a high incidence of monopolies. The question is, to what extent can these trends be mitigated by more effective regulation or supervision.

Box 3 Effect of wage costs on profitability and competitiveness

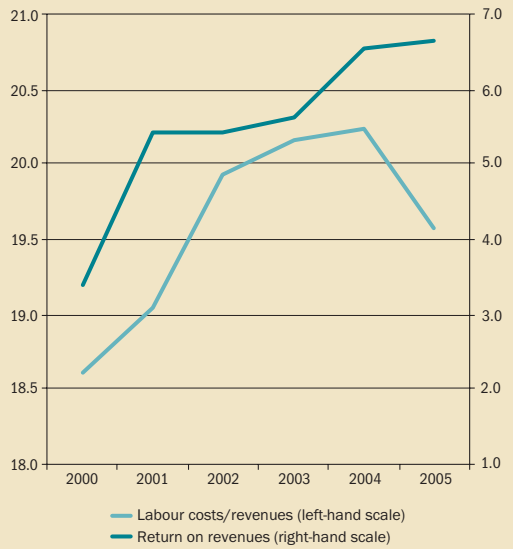
Higher labour costs did not adversely affect corporate profitability

Labour costs in the Slovak economy increased in 2005 more quickly than they did in the previous year. For the first time, their growth even exceeded that of labour productivity, by an average of more than 1 percentage point, though this was largely a result of lower inflation and slightly higher growth in real wages. Wage cost growth was not, however, reflected in reduced profitability. This is mainly because the ratio of labour costs to revenues, despite higher absolute growth, recorded a decline and the ratio of labour costs to total costs remained unchanged at 17.6%. Nor, moreover, did the increase in net value added exceed the growth in labour costs. There is, however, a large disparity in the development of labour costs and profitability between individual sectors.

Recent growth in wage costs has played only a minimal part in the decline in Slovakia's competitiveness with the euro area; the main cause has been exchange rate appreciation against the euro

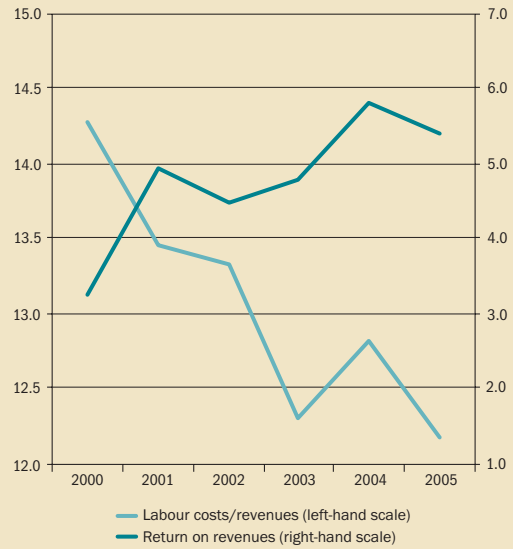
Since Slovakia is a very open economy, we approximate its competitiveness through the development of the bilateral real effective exchange rate on the basis of unit labour costs. Growth in wage costs has not recently

Chart A **Labour costs and profit in ratio to revenues in the Slovak economy** (%)



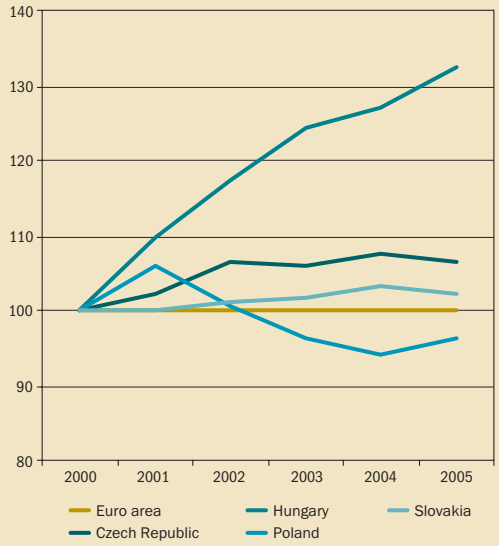
Source: Statistical Office of the SR, NBS calculations.

Chart B **Labour costs and profit in ratio to revenues in Slovak manufacturing** (%)



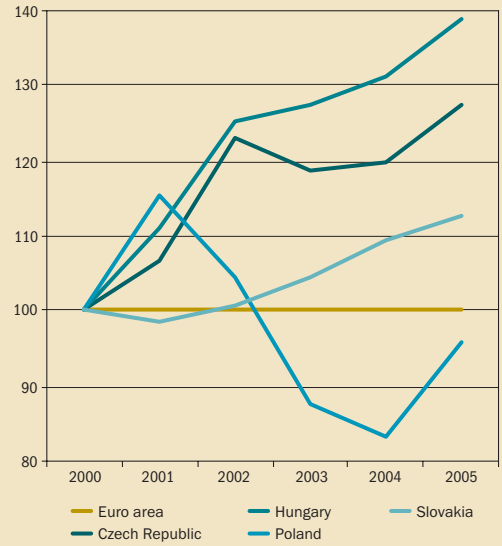
Source: Statistical Office of the SR, NBS calculations.

Chart C **Unit labour costs (euro area = 100, year 2000 = 100)**



Source: NBS calculations, ULC calculated in accordance with the methodology of the EC, ECB and OECD.

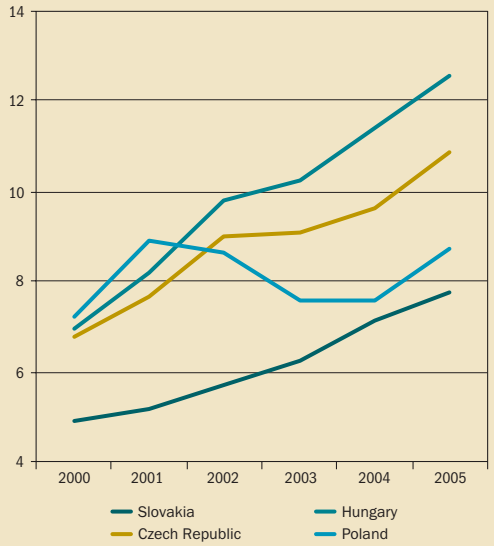
Chart D **Competitiveness (REER on the basis of ULC) (euro area = 100, year 2000 = 100)**



Source: NBS calculations, ULC calculated in accordance with the methodology of the EC, ECB and OECD.
Note: Index growth represents a decline in competitiveness with the euro area.

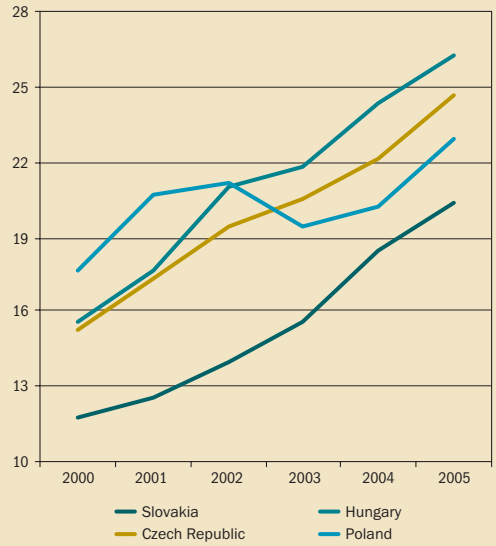
been reflected in higher unit labour costs, owing to the faster growth in labour productivity. Charts C and D show that the decline in competitiveness of Slovakia and the Czech Republic vis-à-vis the euro area has largely been caused by appreciation of koruna. In Hungary, by contrast, a sharp rise in labour costs is the cause. Chart D in addition shows that, according to the REER index, Slovakia's competitiveness with the euro area did not change in the years 2000-2002 (whereas that of the Czech Republic and Hungary declined during this period). Over the next years, the competitiveness of these three countries with the euro area declined at an approximately similar pace.

Chart E **Annual labour costs per employee in the economy (EUR thousand)**



Source: Eurostat.

Chart F **Annual nominal labour productivity per employee in the economy (EUR thousand)**



Source: Eurostat.

That the V4 countries (except Poland) are becoming less competitive with euro area countries is a natural aspect of accelerated real convergence.

Absolute position

The level of hourly labour costs in the Slovak economy remains the lowest among the V4 countries. Between 2000 and 2005, labour productivity grew at a slightly faster pace than did labour costs. In 2005, Slovakia therefore drew closer to the other V4 countries more in terms of labour productivity level than in labour costs. Rising wage costs per employee in 2004 and 2005 corresponded to the faster pace of labour productivity per employee. This contributed to the fact that labour cost growth had only a small effect on the development of competitiveness with the euro area.

3.2 Developments in the non-financial corporations sector as regards financial stability risks

The financial results of non-financial enterprises provided a platform for the repayment of liabilities in 2005. The improved financial position of enterprises supported an improvement in credit risk indicators in the banking sector's corporate lending portfolio.

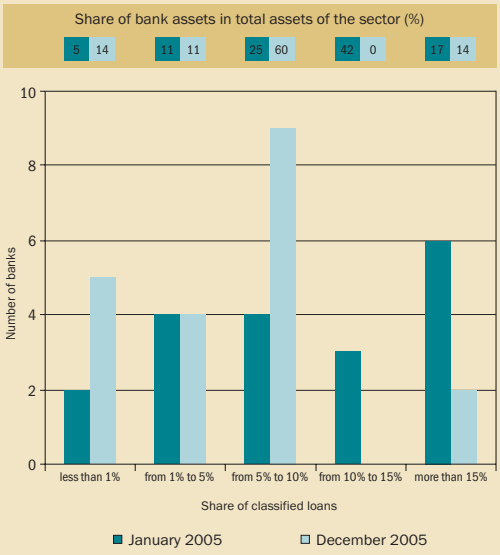
Despite the increasing volume of loans provided to the corporate sector, indebtedness ratios remained substantially unchanged

The volume of corporate lending increased over the year by 20.5%. Lending increased in both the domestic currency and foreign currencies. The volume of assets in the whole corporate sector increased between the end of the first quarter and the end of 2005 by 21%. The ratio of bank loans to total assets therefore declined, and stood at 10% by the year-end. The ratio of long-term loans to corporate assets developed in a similar way. Enterprises made greater use of investment loans, and consequently long-term loan accounted for a higher share of total corporate loans, 57% at the year-end.

The quality of the credit portfolio slightly improved in terms of both the share and volume of non-performing loans

Non-performing loans as a share of total corporate loans amounted to 8% in December 2005 (10% in January), and this share declined in almost all banks in comparison with the beginning of the year (Chart 16). Standard special mention claims

Chart 16 **Breakdown of gross classified loan by share of total corporate loans**



Source: NBS.

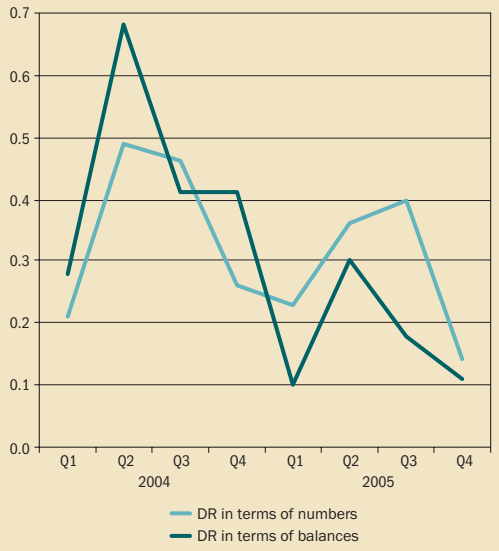
increased by 14% (from SKK 30.8 billion in January to SKK 35.1 billion in December 2005). In terms of industry classification,[40] the riskiest corporate loans are provided in manufacturing.

The corporate sector had a low default rate

The default rate (DR) expresses the percentage of loans that default during the reviewed period. The default rate may be tracked in terms of either number of loans or the volume of loan balances. During 2005, the DR for number of loans exceeded the DR for balances, from which it may be concluded that the defaulted loans were mainly loans with a lower than average balance. Throughout the year, both indica-

[40] *Industries are only considered if they account for more than 1% of total loans.*

Chart 17 **Default rate on loans to legal persons** **(%)**



Source: NBS, Register of Bank Loans and Guarantees.

tors fluctuated at a low level, below 0.5%. The quarterly default rate from 2004 is shown in Chart 17.[41]

3.3 Developments in the household sector

The increase in households' positive expectations and favourable assessment of the economic situation was supported by the positive economic development, wage growth, decline in the unemployment rate, and increase in employment, which in turn supported an increase in household consumption. This development was reflected in the rise in the consumer confidence indicator in 2005, which reached its highest long-term level.

Household income growth supported consumption growth; savings also increased

The increase in gross disposable income was supported by current income growing more quickly

Box 4 Households' perception of the economic environment

The Consumer Barometer Survey is based on the qualitative assessments made by individual respondents when asked to comment on particular aspects of the country's economic life and the financial performance of households. Slovak consumers are relatively sceptical – in each area of the economic environment, the assessment is more pessimistic than optimistic. Particularly in the last two years, however, there has been a noticeable decline in negative assessments and increase in positive assessments.

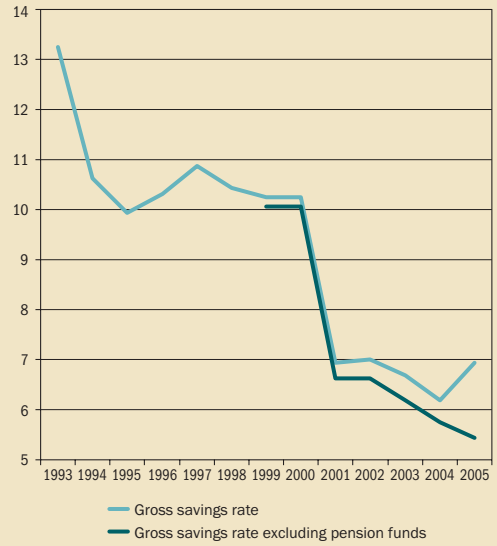
The overall consumer confidence indicator stayed above the long-term average throughout 2005. The improvement in the consumer sentiment occurred mainly in the first half of the year, with consumers somewhat revising down their assessments in the second half. The assessment of the economic situation in the country followed this course, as did the assessment of consumer price developments. The expected development in unemployment was among the areas perceived in more optimistic terms in 2005, as positive expectations outweighed negative ones and the assessments were more even over the course of the year.

Although the assessment of the financial position of households was dominated by criticism (the financial position deteriorated over the previous 12 months), and the current situation was seen as continuing for the next 12 months, the aggregate assessment in 2005 was more favourable than the long-term average. As to the question "What do household financial circumstances allow for: saving or living in debt?", around 40% of respondents said that they are managing on a balanced budget, 37% are saving, and 23% are living in debt. Conditions for saving were described by approximately 80% of households as unsuitable (in replies stating that the time for saving is "not very suitable" and "is very unsuitable"). More than two thirds of those surveyed did not expect to be able to save something over the next 12 months. The assessment of consumer intentions for the near future – regarding the making of and prospects for large purchases, investments in home improvement, the purchase or construction of flat or and house, or the purchase of a car – fluctuated close to the long-term average, which indicates a higher level of interest in investment spending.

[41] *When interpreting the chart, account should be taken of the amendment to the Provision on the Classification of Assets and Liabilities from 2005, which introduced changes to the quantitative characteristics for the classification of loans into individual categories. The arrears periods for individual categories were shortened, and the definition of arrears period was modified. The change is not reflected in the charts to a significant extent.*

than expenditure. Together with lending growth, this provided households with enough funds to finance consumption. Simultaneous with the increase in household consumption there was a substantial increase in household saving. The savings growth was also caused by the launch of the second pillar of pension reform in 2005:[42] pension savings (designated in the national accounts system as *"Adjustment for change in the net equity of households in pension funds",* which prior to 2005 consisted only of voluntary savings in the third pillar) increased fourfold (by 323.5%) and consequently gross household savings increased by 22.5%. This factor enabled a turnaround in the long-term declining rate of gross household savings – gross household savings as a share of gross disposable income.

Chart 18 **Gross household domestic savings rate (share of gross disposable income, %)**



Source: Statistical Office of the SR, NBS calculations.

Statistical reporting of pension savings as part of household savings partially overvalues them

The part of household savings comprising pension savings of the second and third pillars has a specific nature. On the one hand, the funds which households put into pension savings of the second and third pillars remain in their ownership and are not spent on consumption.

The owners may not use them, and therefore cannot use them as a source of self-financing for their investments,[43] which is one of the main functions of savings. On the other hand, these funds directly enter the financial system, where, as temporarily free funds, they become a source of capital supply. The statistical reporting of household pension fund savings as part of household savings does, however, partially overestimates the saving capacity of households, considering that no real change in household consumer behaviour took place in 2005.

Household spending on consumption is tending to exceed the growth in household income

Slovakia households are showing a high and rising propensity to consume – more than 94% of disposable income is currently used for consumption. Consumption spending grew at a faster pace than did the income generated by households. This means that a disproportionate part of household income growth went on consumption.

The high propensity to consume be attributed to income levels in Slovakia. It is mainly higher income households that have the scope to save. Slovakia is also characterized by substantial regional income imbalance – in 2005, Bratislava was the only region in which the average wage was above the national average. A task for the future will therefore be to analyse the household sector more closely in terms of the behaviour of different income groups.

Household consumption growth was partly the result of the dynamic increase in lending. Demand for loans was supported by the positive macroeconomic development, growth in household income, decline in lending rates, and easier access to loans amid intensifying retail competition between banks. As far as banks are concerned, lending to the household sector is attractive given the high interest rate margin in comparison with other sectors and non-interest income, and the relatively low credit risk.

[42] *The pension savings sector in Slovakia is described in Annex 2.*
[43] *Part of these funds may, however, be returned to household use since they are subject to inheritance.*

3.4 Financial position of households

The aggregate household sector balance sheet reflects the increasing credit burden of households, though more significant imbalances in the balance sheet have not occurred up to now.

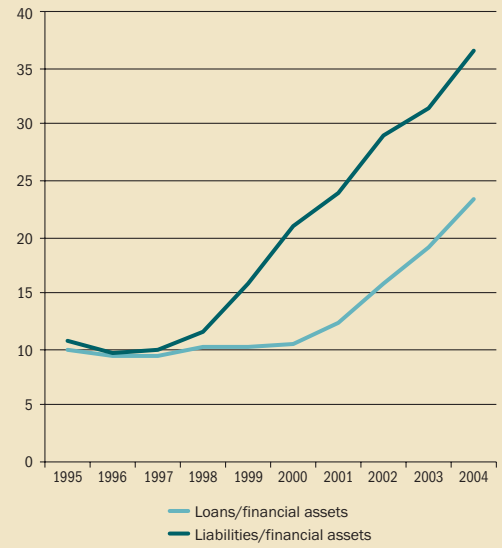
The relative reduction of household liquid assets that could be used for loan repayments is a continuing trend

The structural development of household financial assets is affected by the increasing investment options offered by various investment products. These have in recent years delivered higher returns than deposit products, a fact reflected by the declining share of cash and conventional deposits in banks and the increasing share of life insurance, shares and other securities, especially mutual fund shares and other claims and liabilities. In 2004[44], bank deposits and cash accounted for 72% of financial assets, life insurance 11%, shares and investment funds 7%, securities other than shares 2% and other claims and liabilities 8%. The structural change in assets in favour of investment products is slightly increasing the potential exposure of household assets to financial market developments.

The fast growth in household lending is also raising household indebtedness, though this is still relatively low

The dynamic growth in financial liabilities continued in 2004. Of them, bank loans (predominantly long-term) accounted for 64% and other claims and liabilities for 36%. As regards wealth indicators (e.g. volume of financial assets per capita, volume of financial assets in ratio to GDP) and indebtedness indicators (volume of financial liabilities per capita, volume of financial liabilities in ratio to GDP), Slovakia, on the one hand, is lagging behind the old Member States (as are the other new Member States), but, on the other hand, the ratio of financial liabilities to financial assets – which indicates the ability of households to meet their liabilities in the short term – stood at 36% in 2004, which approximately corresponds to the level in the old Member States. Given the higher pace of growth

Chart 19 **Ratio of household debt to financial assets (%)**



Source: Statistical Office of the SR, NBS calculations.

in household indebtedness in Slovakia, the capacity of Slovak households to cover their liabilities with accumulated financial reserves should not be overestimated.

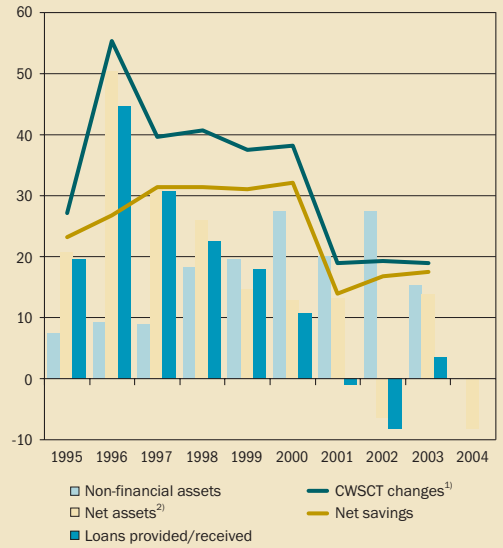
The development of the household sector balance sheet, measured in ratio to GDP, has since 1999 shown a relative decline in net assets as household financial assets have fallen and financial liabilities have continued to increase sharply. The net asset decline is related to developments in the financing of non-financial assets.

The overall creditor position of households is weakening

The source of financing for household non-financial assets includes net household savings (gross savings less fixed capital consumption) and capital transfers (capital transfers received less capital transfers paid), which the national accounts system designates as *changes in net worth due to saving and capital transfers*. The decline in net savings together with decreasing household income from capital transfers means a decrease in own funds for the creation of non-financial assets. In the event that the creation of non-financial assets exceeds

[44] *Data for 2005 were not available when this report was prepared.*

Chart 20 **Year-on-year changes in the household sector balance sheet (SKK billion)**



Source: Statistical Office of the SR, NBS calculations.
1) Changes in worth due to saving and capital transfers.
2) Net assets = financial assets – liabilities.

Chart 21 **Debt-to-income ratio (%)**

Source: NBS, Statistical Office of the SR.
Note: The data for gross disposable income expresses the percentage increase in comparison with the same period of the previous year. Gross household income is defined as the difference between the current income and expenditure of household. Debt-to-income ratio represents a ratio of loan repayments to gross disposable income; loan repayments are calculated from the volume of loans to households broken down by their maturities and applicable interest rates.

the volume of own funds, part of the household investments must be financed with external funds, leading to a change in the position of the household sector vis-à-vis other sectors of the economy – from creditor to debtor (in Chart 20, the negative figure of loans provided/received). This situation came about in 2001 and 2002. That households' liabilities have increased faster than their financial assets in recent years is reflected in the lower rise in net household assets. In 2002 and 2004, net household assets even fell. The assumption in 2005 is for a continuation of this trend of household indebtedness.

Households in 2005 had sufficient income for the repayment of loans

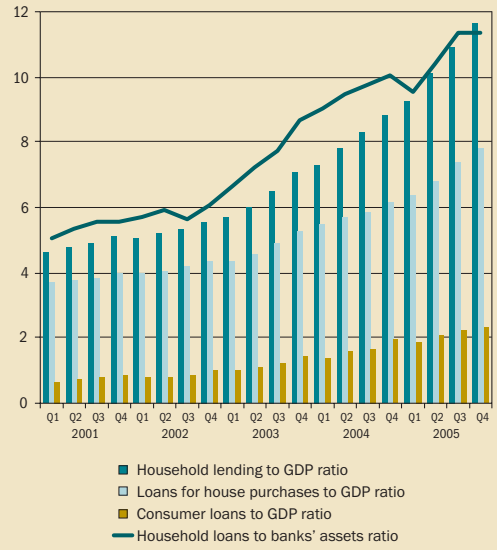
Loan repayments[45] as a share of gross disposable income stood at 4% in the fourth quarter of 2005. Despite the rising trend, it is still among the lowest in the EU.[46] The ability of households to meet their liabilities is not at risk since households are at present generating enough income and hold a sufficiently high volume of financial assets in ratio to their liabilities. What will be important, however, is a microeconomic analysis of the distribution of indebtedness within different income groups, since banks are likely to respond to the increasing competition by lending also to more risky sections of the public.[47]

Lending continued to grow quickly in 2005

The volume of household lending continued to grow at a fast pace in 2005. It rose year-on-year by 42.7%, which in absolute terms represents an increase of SKK 49.8 billion in loans provided. Household lending as a share of GDP increased from 8.8% in 2004 to 11.6%[48] in 2005, and household lending as a share of banking sector assets increased from 9.5% to 11.3 percent. Although the

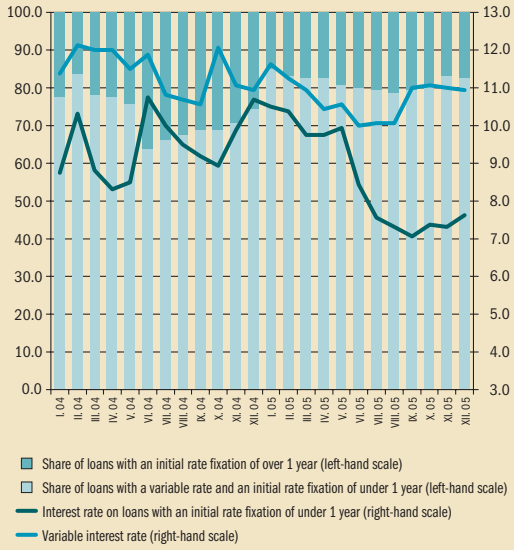
[45] *Loan repayments are calculated from data on household lending volume broken down by maturities and the applicable interest rates.*
[46] *In 2002, the Netherlands reported debt-to-income ratio at 11%, Germany 7%, and the United Kingdom 7%. Source: Macroeconomic implications of rising household debt, BIS (2004)*
[47] *The NBS Banking supervision plans to use microeconomic data for the analysis of household indebtedness in the report on the first half of 2006.*
[48] *At the end of 2005, household lending accounted for 29.9% of total client loans.*

Chart 22 **Household lending to GDP (in current prices) and banks' assets** (%)



Source: NBS, Statistical Office of the SR.

Chart 23 **New household loans by fixed rate period** (%)



Source: NBS.

ratio of lending to GDP has been rising strongly since 2003 (Chart 22), this ratio is one of the lowest in comparison with other countries. In 2004, household lending in the EU stood at 57.2% of HDP (the United Kingdom, with 98% of GDP, and the Netherlands, with 77% of GDP, had the most indebted households).

Housing loans were most prevalent, accounting for 67% of household lending, while consumer loans accounted for 20% and other loans 13%. The most common housing loans were mortgage loans, although other housing loans increased their share as they are provided under conditions less strict than those for mortgages (mortgage bond coverage, tied purpose, maximum loan-to-value ratio). In contrast to the trend in other new Member States, Slovak households are not taking up the option to borrow in a foreign currency – almost all their loans, 99%, were taken out in the domestic currency.

Transfer of the interest rate risk to households may ultimately lead to a credit risk for banks

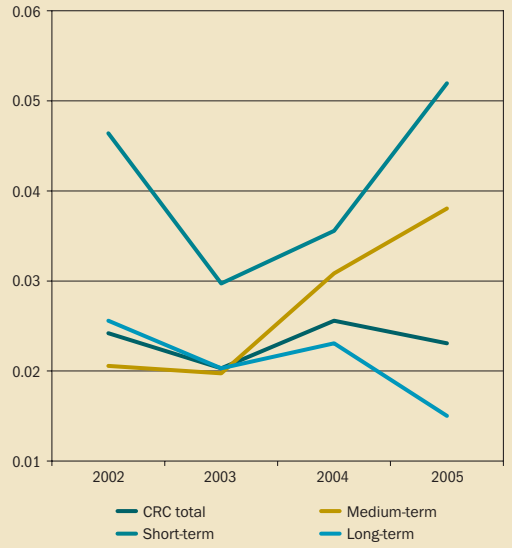
Variable rate loans with a fixed rate for up to 1 year account for a high share (82% of new loans). Household interest in loans with a short-term fixed interest rate is largely related to the trend of falling interest rates in recent years. Households are therefore including the most recent interest rate developments in their assumptions for future development. Such short-sighted behaviour by households means they risk having higher loan repayments in the event of a rise in interest rates.[49] While banks are, on the one hand, looking to transfer interest rate risk to households, they could, on the other hand, be risking deterioration in the quality of their credit portfolio in the event that households have difficulties in making loan repayments.

The general degree of risk in household lending is low

The greatest risk lies in short-term loans, which account for only 7.8% of household loans. By contrast, the least risky long-term loans account 71.3% at the end of the year. Although long-term loans are, on the one hand, the least risky, they also impair the term consistency between assets and liabilities of the banking sector. The growth in their risk, or the continuing trend of a year-on-year increase in loss-making loans, could represent a future risk

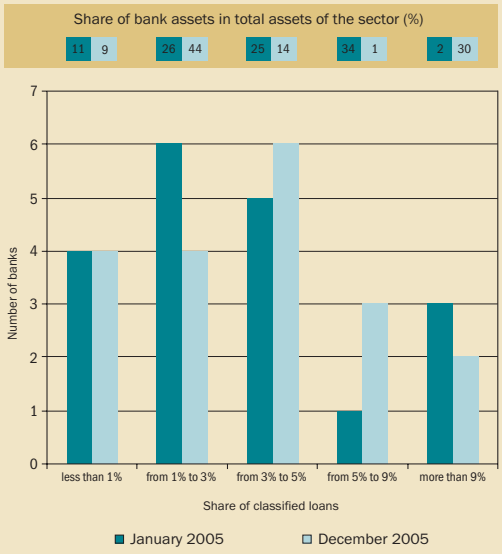
[49] *The high share of loans with a short-term fixed rate need not represent a risk for households provided that at times of low interest rates they create reserves to cover an increase in repayments.*

Chart 24 **Household lending risk (CRC)[1)]**



Source: NBS.
1) CRC = credit risk coefficient, – the need for creation of provisions per one SKK of provided loans according to the risk categorization of bank lending operations.

Chart 25 **Breakdown of gross classified loans as a share of total household loans**



Source: NBS.

factor given the term consistency between assets and liabilities (Box 7).

The ratio of non-performing loans to total loans improved, though the actual volume of non-performing loans increased

Despite the low risk in this part of the credit portfolio, a certain risk can be observed in the year-on-year increase in non-performing loans and especially in loss-making loans therein. The share of gross non-performing household loans to total household loans declined in 2005, from 4.5% in January to 3.9% in December. The number and share of banks whose non-performing loans account for more than 9% of total loans also decreased (Chart 25).

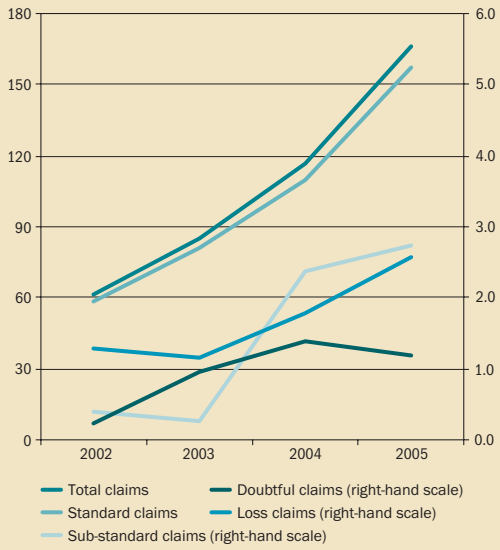
The general degree of risk in household lending is being kept low by the growth in new loans

When evaluating non-performing claims as a share of total loans, it should be stressed that this ratio is to a large extent influenced both by the increase in new loans (where a deterioration in quality may appear only after the passage of time), and by the sale or assignment of loss-making claims. Despite the improvement in the ratio of non-performing loans to total loans, the actual volume of non-performing loans increased over the 2005 by 20% (approximately SKK 1 bn) to stand at SKK 6.5 bn in December. The volume of standard special mention loans increased by 64.3% over the course of the year (from SKK 1.64 billion in January to SKK 2.69 billion in December). As of December, they accounted for 1.4% of total household loans. The year-on-year growth in loss-making loans by SKK 789 million represented an increase of 44.6%. The risk structure of household lending is not, at present, developing in a way that threatens the capital and financial stability of the banking sector or banks primarily focused on retail banking; it does, however, need to be monitored since the low general degree of risk in household lending is substantially a result of growth in new loans currently categorized as standard.

Although the growth in household lending may be seen as positive in terms of the diversification of the banks' credit portfolio, the increase in the volume of loans also has implications for their quality

Survey findings on credit market development indicate that lending growth is significantly affected

Chart 26 **Household loans**
(SKK billion)



Source: NBS.

by supply factors. This mainly relates to the competition between banks, as seen in the relaxing of credit standards and other conditions under which loans are provided. This could lead to deterioration in the quality of the banks' credit portfolio.

3.5 Risks in the non-financial corporations sector and household sector

- Profits concentrated in certain industries.
- Growth in household lending.
- Transfer of interest rate risk to households.
- Relaxing of credit standards in household lending.

Uneven growth in profits and potential decline in competitiveness

The risks that non-financial enterprises pose to financial stability have fallen as enterprises' financial results have improved. The strong growth of the domestic economy is enabling enterprises to generate profits and balance-sheet reserves, which in turn supporting their capacity to absorb financial shocks. Risks pertaining to corporate financial results do exist, however, in particular the fact that profitability growth is concentrated in industries which have a low degree of competition and a leading role in determining costs within the economy. Were this trend to persist, the growth in costs could cause tensions in the financial management of enterprises, especially in industries more significantly exposed to competition. Likewise, continuing faster growth in wages and unit costs could curb the competitiveness of the tradable sector in foreign markets. The competitiveness of the whole economy is affected by appreciation of the exchange rate where this is more dynamic than the projected equilibrium level.

Household lending growth should follow its equilibrium path

Economic growth together with rising employment is creating the conditions for generating enough household income to cover household liabilities. Similarly, the amount of household financial assets is currently sufficient. Alongside the sharp growth in household lending are also, however, potential risks. These include, for example, the potential increase in asset (real estate) prices or the fast consumption growth, which could represent risks for overall macroeconomic development.

Loan indebtedness of individual income groups will need to be monitored

Aggregate data on the household sector cannot sufficiently describe the position and behaviour of borrowers, and they need to be supplemented with (harder to obtain) information on individual income segments and their indebtedness.

Loans with a short-term fixed rate have a significant share

The high share of variable rate loans with a short-term fixed rate represents a potential interest rate risk within the household sector. If interest rates rise, then certain households could face repayment problems and quality of the banks' credit portfolio will deteriorate. A similar impact could result from the growing competition between banks, which is seen in the relaxing of credit standards and other condition under which loans are provided.

4 Financial sector developments

The Slovak financial sector in 2005 comprised banks, insurance companies, asset management companies (collective investment), pension fund management companies and stockbrokers. The volume of assets managed by financial market institutions in 2005 amounted to SKK 1,697.3 billion, and the year-on-year growth of the financial sector stood at 23%. The Slovak financial sector reported positive trends in 2005. Its assets and equity increased in value. Although there were changes in the segment structure of the financial market in 2005, the banking sector continued to have the dominant position (Chart 27). As at the end of year, the banking sector reported assets in the amount of SKK 1,405 billion and it recorded the highest volume increase in assets year-on-year. Nevertheless, the banks' share of financial sector assets declined slightly (from a level of 85% in 2004).

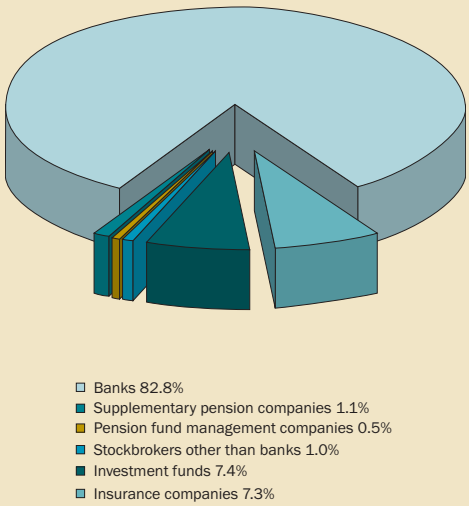
4.1 Banking sector

4.1.1 Key financial stability trends in banking sector liabilities

Although the share of funds from abroad increased, the banking sector had sufficient domestic funds at its disposal

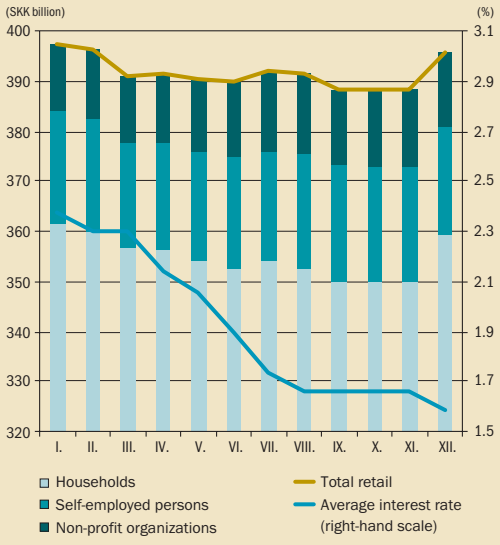
As regards the structure of external funds, funds from foreign banks as a share of total liabilities rose from 14% to 22% as at the year-end, to stand at SKK 302 billion. At the same time, however, banks had sufficient domestic funds to cover the year-on-year growth in lending. Although client deposits as a share of total liabilities declined year-on-year, from 66% to 60%, they increased in absolute terms by SKK 47 billion. The strong lending growth

Chart 27 **Financial institutions by share of assets and managed assets of the financial sector in 2005**



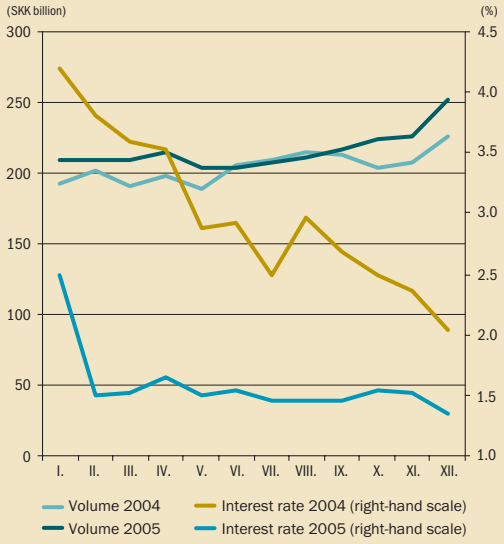
Source: NBS.
Note: For banks and insurance companies, the share is evaluated by net assets, and for other sectors, by value of managed assets.

Chart 28 **Structure of retail deposits in 2005**



Source: NBS.

Chart 29 **Volume of non-financial corporation deposits**



Source: NBS.

in the banking sector is not so far dependent on foreign funds. Household deposits were stable at the end of 2005 in comparison with January. Like households, non-financial corporations gravitated towards koruna demand deposits.

4.1.2 Key financial stability trends in banking sector assets

The development of the credit portfolio is affected by the high year-on-year growth in lending to households and to non-financial corporations

As a share of the credit portfolio, lending to households[50] and non-financial corporations increased by 27.73%. Foreign exchange corporate loans rose substantially in comparison with the previous year, by 34.40% year-on-year. Non-financial corporations and households represent the predominant share of borrowers. Table 7 shows

Table 5 **Development of selected liabilities and their share of the balance sheet value (BSV) of the banking sector**

	2004		2005		Growth index
	SKK billion	% of BSV	SKK billion	% of BSV	%
Balance sheet value	1,163	-	1,405	-	20.81
Own capital	104	8.95	109	7.75	4.78
Registered capital	44	3.81	44	3.15	0.20
External funds	1,059	91.05	1,297	92.25	22.50
Interbank liabilities	183	15.74	321	22.87	75.71
Lient deposits	749	64.39	805	57.28	7.54

Source: NBS.

Table 6 **Development of selected assets and their share of the balance sheet value (BSA) of the banking sector**

	2004		2005		Growth index
	SKK billion	% of BSV	SKK billion	% of BSV	%
Balance sheet value	1,163	-	1,405	-	20.81
Loans	449	38.57	557	39.58	24.09
Interbank assets	307	26.41	475	33.79	54.66
Securities	378	32.50	332	23.62	-12.11
Earning assets	1,077	92.61	1,355	96.35	25.83
Fixed assets	28	2.44	28	1.99	-1.46

Source: NBS.

[50] *In this part, "households" is used in the sense of the English term, i.e. without self-employed persons.*

Table 7 **Lending growth**

	Non-financial corporations			Households		
	2004	2005	Year-on-year change in %	2004	2005	Year-on-year change in %
	SKK million			SKK million		
Total loans	220,042	272,370	23.71	116,750	166,603	42.70
Short-term	93,165	118,161	26.83	7,262	12,902	77.66
Medium-term	50,270	52,548	-4.53	31,328	34,863	11.28
Long-term	76,607	101,661	33.69	78,160	118,838	51.04

Source: NBS.

the amount by which lending to these most important segments of the credit market increased year-on-year in 2005. Their share in the sectoral structure of the credit portfolio came to 78.83%, which represents a slight increase on the 76.58% reported for 2004.

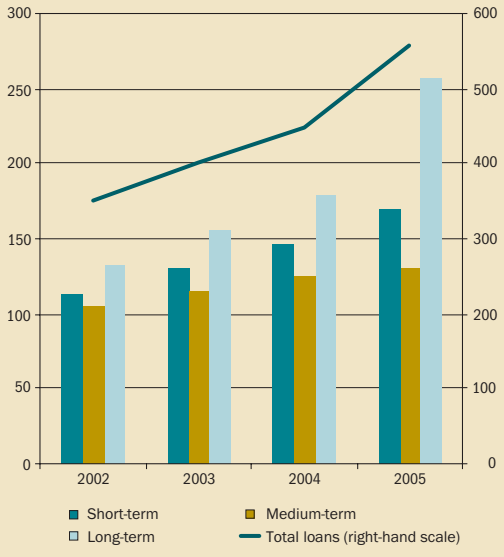
The total increase in loans in 2005 amounted to 24.09%, while the figure in 2004 was 11.71%. The balance sheet amount of loans increased from SKK 448.5 billion in 2004 to SKK 556.5 billion in 2005, and represents 39.58% of banking sector assets (38.57% in 2004).

The fastest growing loans according to term structure are long-term loans

The banking sector is in a split position. On the one hand, long-term loans are, within the current term structure of credit portfolio, the least risky. In both segments, the general degree of credit risk in short-term loans is substantially higher than that in long-term loans. It is 2.24 times higher with non-financial corporations and 3.67 times higher with households. Particularly in regard to the corporate sector, the high year-on-year growth in long-term loans was reflected in a decline in the credit risk, from 0.10 to 0.06. This is because the term structure of allocated loans corresponds more than before with the turnover period of corporate assets, which increased slightly in 2005. The decline in interest rates also plays significant role by reducing the operational leverage.[51] On the other hand, however, this results in a maturity mismatch between asset and liability transactions. This maturity mismatch is more significant with household loans provided in 2005. In the corporate sector, the increase in the short-term and long-term loan indebtedness was balanced, whereas in the household sector, long-term loans accounted for 81.40% of the year-on-year rise.

In the next part of the report on developments in the economic position of the banking sector, selected indicators will be evaluated for the banking sector as a whole and for the banking sector excluding the branches of foreign banks. This is because, from the regulatory point of view, branches of foreign banks (BFBs) are in a different position, though at the same time their share of bank sector assets amounted to 21% at the end of 2005.

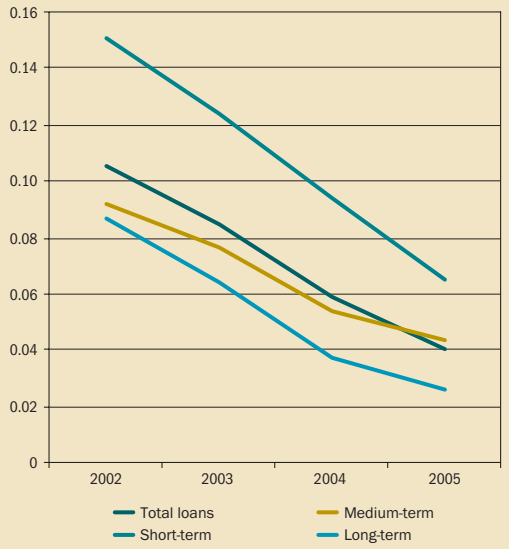
Chart 30 **Lending growth according to loan maturity (SKK billion)**



Source: NBS.

[51] *Operational leverage represents the ratio of fixed costs to revenues; fixed costs include interest.*

Chart 31 **Risk in koruna loans (CRC)[1)]**



Source: NBS.
Note: CRC (credit risk coefficient) = the need for creation of provisions per one SKK of provided loans according to the risk categorization of bank lending operations.

4.1.3 Profitability

The profitability of the Slovak banking sector continued to increase owing to the favourable economic conditions

The net profit of the banking sector for 2005 increased year-on-year by 13% to SKK 13.9 billion (for the sector as a whole). The average return on equity (ROE), weighted by volume of own funds, was 16.8% (excluding BFBs), whereas in 2004 it was 15.7%. Not all banks reported a profit, however, and the total loss came to SKK 23 million. The highest ROE was earned by the group of large banks.

The average return on assets (ROA), weighted by volume of assets, decreased year-on-year from 1.16% to 1.02% (excluding BFBs). The main reason for this decline is the growth in interbank transactions that are less profitable than client transac-

Table 8 **Development of selected income items and their share of the total income of the banking sector**

	2004		2005		Growth index
	SKK billion	% of income	SKK billion	% of income	%
Total income	320	-	318	-	-
Interest income	58	18.13	55	17.30	-5.17
Fees	11	3.44	13	4.09	18.18
Income from foreign exchange transactions	110	34.38	141	44.34	28.18
Income from derivative transactions	96	30.00	65	20.44	-32.29
Operating income	3	0.94	6	1.89	100.00
Use of reserves and provisions	35	10.94	34	10.69	-2.86

Source: NBS.

Table 9 **Development of selected cost items and their share of total costs of the banking sector**

	2004		2005		Growth index
	SKK billion	% of costs	SKK billion	% of costs	%
Total costs	308	-	304	-	-
Interest cost	24	7.79	22	7.24	-8.33
Charges	2	0.65	2	0.66	0.00
Costs of foreign exchange transactions	106	34.41	136	44.74	28.30
Costs of derivative transactions	97	31.49	63	20.72	-35.05
Operating costs	40	12.99	43	14.14	7.50
Creation of reserves and provisions	31	10.06	29	9.54	-6.45

Source: NBS.

tions (further details below). This is also the reason why the lowest ROA is earned by the group of banks tied to their own banking groups (0.48%, representing a decrease from 0.77% year-on-year).

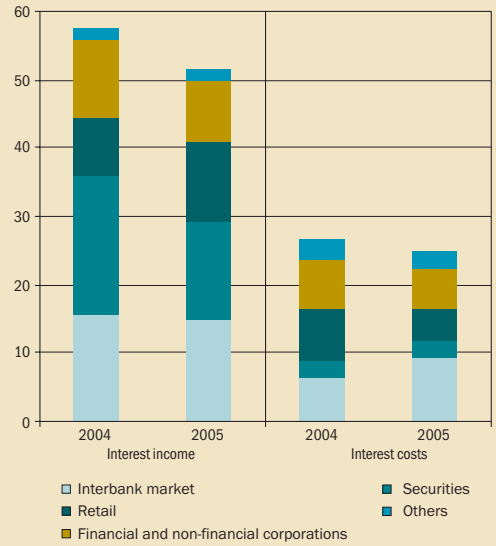
The volume of net interest income in the Slovak banking sector decreased from SKK 34 billion to SKK 33 billion[52]

Amid falling interest rates, banks recorded a decline in interest income (by 5.2%) and in interest costs (by 8.3%). As regards interest income, the largest decrease was in interest income from securities. Because of the high growth in the volume of funds sterilized by the NBS in reverse repo transactions, interest income received from the NBS increased by 8% year-on-year. In December 2005, this accounted for 22% of all interest income. Interest income from retail loans also increased, by up to 39%, largely because of the strong volume growth in these loans. Interest costs decreased mainly because of the decline in interest costs paid to enterprises (which happened despite the increase in corporate deposits) and to the retail sector. By contrast, interest costs paid to banks – the largest component of total interest costs (41%) – increased by almost one half.

The interest rate spread on interbank transactions fell to zero, though the volume of transactions is rising

As mentioned earlier, the volume of funds sterilized by the NBS increased sharply in 2005, with the operations conducted mainly through repo transactions or the issue of NBS bills for the banks' portfolio.[53] These funds originated mainly from funds obtained on the foreign interbank market. However, the interest rate spread on these transactions declined steadily in 2005, almost to zero (Chart 33).[54] This indicates that the greater part of the profit on interbank transactions passes to foreign banks. Banks' interest in interbank transactions may be expected to persist

Chart 32 **Structure of interest income and costs (SKK billion)**



Source: NBS.

in future, provided that the current interest rate spread continues. In these transactions, foreign banks take upon themselves the risk of losses arising from an exchange rate fluctuation. Given the low margin in these transactions, the question is how significant will be their effect on the banking sector's profitability.

Banks reported the highest profitability in the retail sector owing to the high interest rate margin and fees

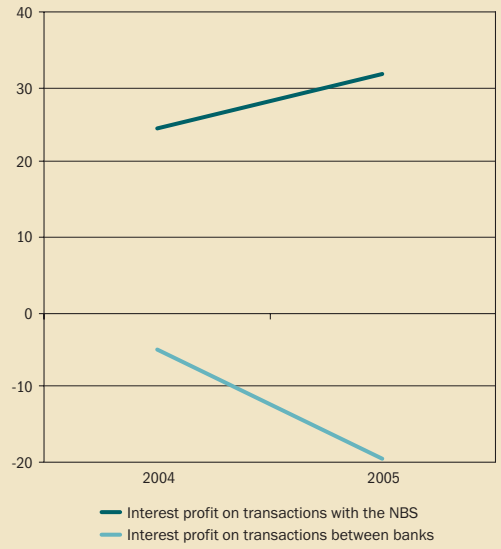
The average net interest rate margin in retail sector (weighted by volume of assets) increased year-on-year, from 6.1% to 6.4%. After taking account of income from bank service fees, which are significant in this sector, the actual profitability of these transactions is even higher. On the other hand, the calculated interest rate margin does not take account of the high operating costs related to retail sector activities (especially distribution network costs). Banks are seeking to limit these by, for example, encouraging clients to use elec-

[52] *The given data also include BFBs, considering their activity on the interbank market as described in Box 5.*
[53] *In repo tenders held between 22 March 2005 and the end of 2005, the NBS accepted the total demand of banks, which increased substantially in comparison with 2004 (from SKK 219 billion to SKK 342 billion year-on-year).*
[54] *The calculation of the interest rate margin includes income from compulsory minimum reserves and other exposures towards the NBS, though their volume is less significant.*

Box 5 Developments in the interbank market

In 2005, an increased disproportion was recorded between the reported profitability of banks' active transactions with the NBS and the profitability of banks' active transaction between one another. Whereas the interest profit on transactions with the NBS, measured as a share of the total interest profit of the banking sector, increased from 24.4% to 31.8%, the interest loss transactions between banks (mainly between resident and non-resident) increased from 5.2% of the interest profit to 19.7%. This disproportion is most apparent with branches of foreign banks. The share of these banks in the balance sheet value of the banking sector stood at 20.7% at the end of 2005, compared with 12.7% in 2004. In the context of the banking sector's sustainable growth of 15.06% in 2005 (Chart A), they recorded sustainable growth of 32.5%. However, their actual growth amounted to 96.6% and that of the banking sector as a whole 20.9%. Of the banking sector's aggregate profit on active transactions with the NBS, their share represented 34.7%, and of the losses on other interbank transactions, it was up to 55.3%. Their share of the total banking sector profit came to 5.5%.

Chart A **Interest profit on transactions with the NBS and losses on transactions between commercial banks, measured as a share of the total interest profit of the banking sector (%)**



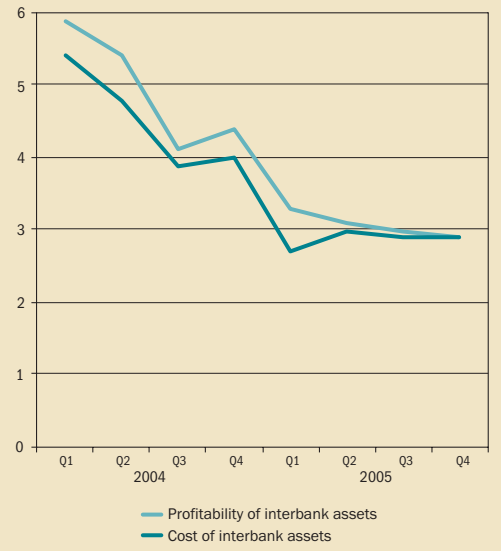
Source: NBS.

tronic banking services.[55] The actual level of the interest rate margin is at the same time affected by the requirement to issue mortgage bonds for the provision of mortgage loans. Their cost is in fact higher than that of retail deposits. Despite continuing lending demand from households and self-employed persons, it is likely that competition between banks will put downward pressure on the interest rate margin, though the profitability of the retail sector will remain attractive.

The net interest rate margin in the corporate sector is substantially lower than in the retail sector

Its average value (weighted by volume of assets) reached 2.4% at the end of 2005, which represents a fall of 0.5 of a percentage point year-on-year. The lower margin in the corporate sector is largely caused by competition between banks being stronger here than in the retail sector, as well as by the market saturation in terms of demand (particularly for loans), which forces banks to lower interest rates.

Chart 33 **Profitability and cost of interbank transactions (%)**



Source: NBS.
Note: The profitability of interbank assets was calculated as the annualized ratio of interest income for the given quarter to the average volume of interbank assets (including deposits and loans with the NBS and purchases of NBS bills). The cost of interbank liabilities was calculated in a similar way.

[55] *According to data from the Slovak Statistical Office, the average fee for a payment received through electronic banking is approximately 30% cheaper than one received the standard way; as regards sending a payment or changing a standing order, the average difference is as much as 60%.*

In client transactions, banks have the lowest interest rate margin on transactions with other financial companies

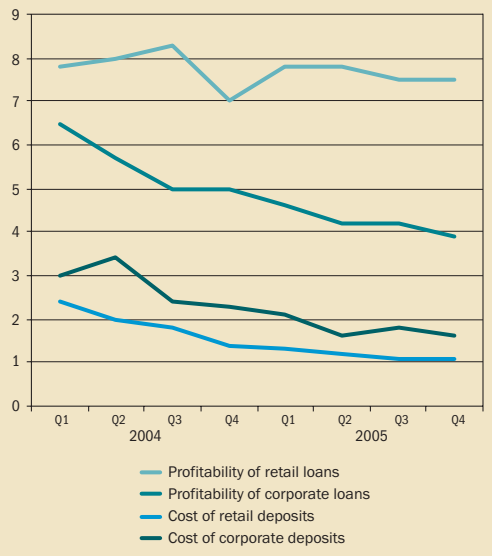
The financial corporations sector recorded an interest rate margin decline even larger than that in the corporate sector. The average interest rate margin (weighted by volume of assets) fell from 2.7% in 2004 to 0.9 in 2005. This was due to the strong competition in the sector and the fact that several financial companies are directly owned by banks or their parent companies.

Net non-interest income of the banking sector increased by 14% year-on-year

Net income from fees rose by 22% year-on-year. Fees received are growing because of both higher prices for banking services and the increase in the number of transactions and the number of different products that bank clients are using. At the same time, the volume of paid fees has been more-or-less stable over the longer term.

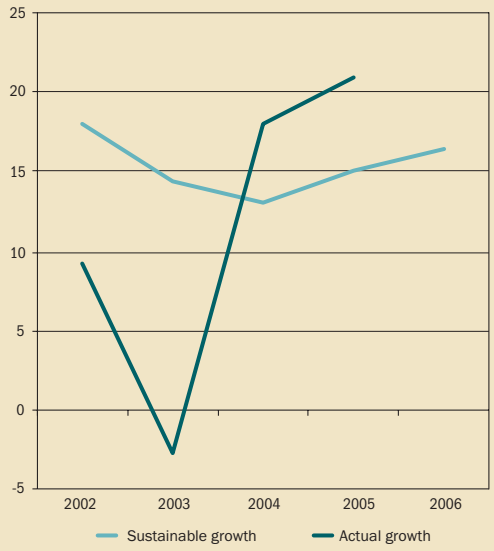
Banks' net income from foreign exchange and derivative transactions increased

Chart 34 **Profitability and cost of client transactions** **(%)**



Source: NBS.
Note: The profitability of loans was calculated as an annualized ratio of interest income for the given quarter to the average gross value of loans (including non-performing loans). The cost of deposits was calculated in a similar way.

Chart 35 **Actual and sustainable growth of the banking sector[1)]** **(%)**



Source: NBS.
1) Banking sector including branch offices of foreign banks.

Compared with 2004, banks' net income from foreign-exchange and derivative transactions increased from SKK 3.2 billion to SKK 6.7 billion. During 2005, their volume rose uniformly in most banks despite the changing volatility of exchange rates and changes in interest rates. This confirms the assumption that these banks use derivatives mainly for hedging risks.

Operating costs for the banking sector as a whole increased by 7% year-on-year

Of this growth, the increase in staffing costs accounted for 85% with the average costs per employee rising by 11%. The operating efficiency of the banking sector, measured by operating costs as a share of net income from banking activities, deteriorated year-on-year. The average cost-to-income ratio (weighted by volume of assets) increased from 62.9% to 68.6%. The operating efficiency of smaller banks is worse than that of larger banks which achieve economies of scale.

The banking sector is reporting a high rate of sustainable growth, though the actual increase in assets has been higher in the past two years

The economic position of the banking sector, in terms of its financial and capital stability, largely

determines the soundness of financial flows in the microenvironment. One of the indicators used as a basis for assessing its real economic position is the sustainable growth indicator.[56] It is the result of an optimal capital structure and the efficient allocation of external funds.

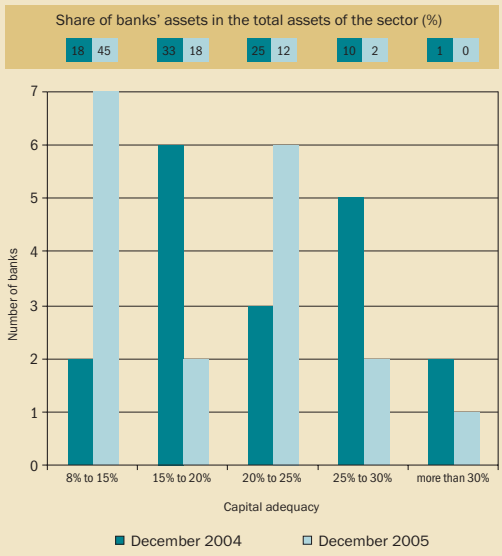
The banking sector continues to report a high rate of sustainable growth. At the same time, the actual increase in assets over the past two years has been higher. This is, however, largely affected by the decline in the capital ratio. Provided that it does not become a long-term trend, this development does not represent a risk since the capital ratio and capital adequacy are declining from relatively high values.

4.1.4 Capital adequacy

The capital adequacy of the banking sector declined in 2005 largely because of the substantial increase in risk-weighted assets

The downward trend of the banking sector's capital adequacy continued in 2005. In December, the figure stood at 14.8%,[57] having decreased by almost 20% since January. Almost all banks reported a decline in capital adequacy (see Chart 36), the main cause of which was the growth in risk-weighted assets (RWAs). Capital adequacy also fell as a result of banks' efforts to manage capital claims more efficiently – by seeking to manage risks while holding a smaller volume of capital. This trend is also related to the introduction of more sophisticated risk management methods in banks. The overall decline in capital adequacy should therefore be evaluated in the context of the increased risk management level in banks.

Chart 36 **Breakdown of capital adequacy in the banking sector**



Source: NBS.

The banking sector had at its disposal in 2005 a large volume of own funds, comprising mainly high-quality Tier 1 capital.

Box 6 Capital adequacy as a potential limiting factor in future lending activity

As mentioned before, the Slovak banking sector continued in 2005 to be in a position of financial and capital stability. It met the standard parameters of a balance-sheet equilibrium. There was, however, in 2005 the somewhat significant appearance of a trend that could in future develop into a potential risk. The risk arises from two opposing, yet mutually related, tendencies. On the one hand, there is the high ratio of earning assets to banking sector assets secured by growth in leverage (Chart A).

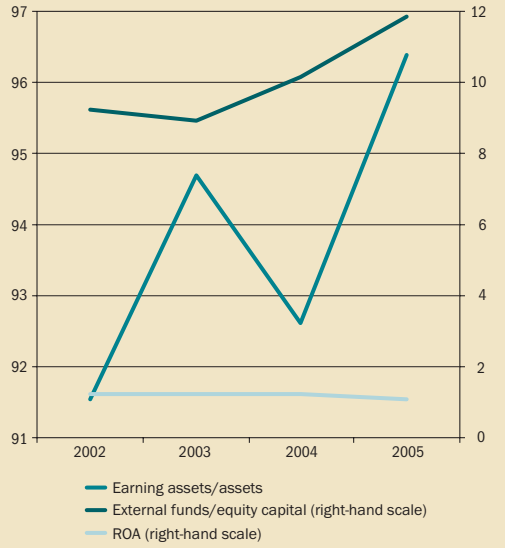
On the other hand, there is the decline in the capital ratio and the even greater fall in capital adequacy (Chart B).

Return on equity (ROE) has risen substantially. Through this development, however, the banking sector is using up its internal potential for further growth. Although sustainable growth for 2006 is, based on the 2005 performance, at 16.37%, it remains limited in terms of the aggregate capital adequacy. Sustainable growth for 2005 amounted

[56] *Sustainable growth represents a year-on-year increase in assets that does not threaten the bank's capital and financial stability. Where it is substantially exceeded over the long term, the result will usually be a loss of liquidity and solvency. Sustainable growth is expressed in simple form by the formula: SG = ROA/[VK/BH-ROA], where ROA = Ø return on assets and EC/BSV = equity capital/balance sheet value = capital ratio.*

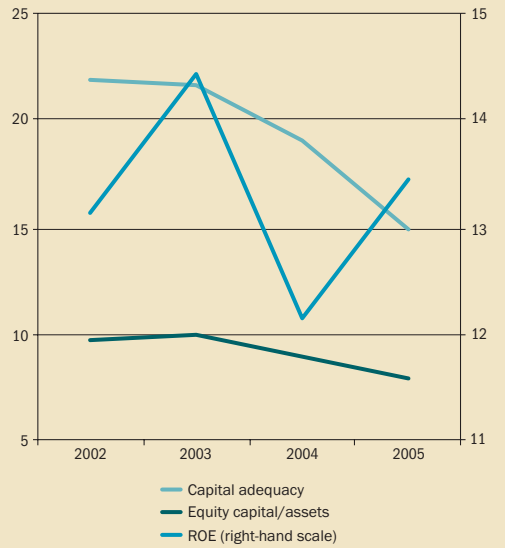
[57] *The average value weighted by banks' risk-weighted assets. It does not include the risk-weighted assets of branches of foreign banks.*

Chart A **Balance sheet ratios for the Slovak banking sector** (%)



Source: NBS.

Chart B **Balance sheet ratios for the Slovak banking sector** (%)



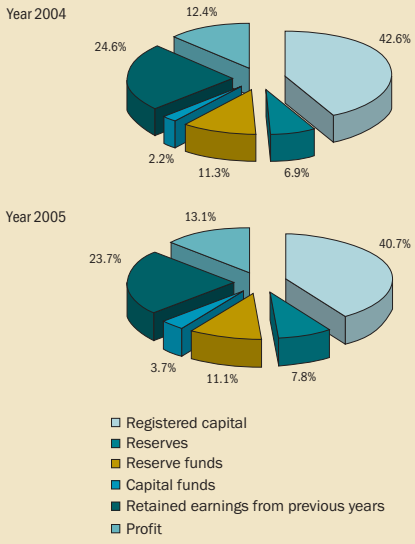
Source: NBS.

to 15.06%, while actual growth came in at 20.91%. The result was a decline in capital adequacy by 4.2 percentage points. In the current development, capital adequacy could be a limiting factor from 2007, especially in regard to lending growth. The high year-on-year increase in ROE and the appreciation of equity capital are stimulating growth in assets, though ROA, a key factor in sustainable growth, is declining. The risk is that the sustainable growth is, given the structure of income and profit, most likely to be temporary. This is logical, especially given the current options for allocating banks' disposable funds into low risk assets with a relatively high interest rate spread.

Within the structure of equity capital, registered capital declined and the share of retained earnings from previous years and current earnings increased[58]

The structure of the banking sector's own funds changed in 2005. The share of registered capital declined by more than SKK 2 billion. The value of reserves and reserve funds increased by SKK 1.7 billion and capital funds by SKK 1.7 billion. Retained earnings kept a stable value. The post-restructuring stability achieved by the banking sector, and the high 2002 base level of capital adequacy arising therefrom, is not putting pressure on an increase in registered capital. ROE is increasing. Banks operating in Slovakia have sufficient internal potential to maintain competitiveness. Retained earnings accumulated over the period 2002 – 2004 stand at SKK 25.6 billion, and combined with the profit of SKK 14.3 billion in 2005, account for 36.7% of equity capital.

Chart 37 **Comparison of the development of own capital components**



Source: NBS.
1) Registred capital including long-term funds provided to branches of foreign banks.

[58] *The data are for the banking sector including BFBs.*

4.1.5 Risks in the banking sector

Risk in the banking sector in 2005 did not change significantly in comparison with 2004. Growth in profitability and a satisfactory level of capital adequacy created good conditions for banks to cope with the risks undertaken during the course of their activities. The most significant financial risk to which banks were exposed in 2005 was credit risk.

FOREIGN EXCHANGE RISK

The direct foreign exchange risk in the banking sector was low in 2005

Throughout 2005, the total open foreign exchange position was short,[59] which exposed the banking sector to an adverse effect in the event of depreciation of the domestic currency. On the liabilities side, short-term foreign exchange funds from banks continued to increase. Foreign exchange loans on the assets side also rose, but to a lesser extent. The volume of foreign exchange loans provided to clients exceeded the volume of foreign exchange deposits (the ratio of clients' foreign exchange loans to deposits stood at 118% in December 2005), which forced banks to finance the increase in foreign exchange loans with funds from foreign banks. In most banks, the balance sheet position was closed with off-balance-sheet derivative transactions (see Chart 38).

Chart 38 **Open foreign exchange positions as a share of banks' assets (%)**

Source: NBS.
Note: The data include branches of foreign banks.

The total foreign exchange balance sheet position increased to 11% of the value of banks' assets, largely because of the foreign exchange deposits of non-resident banks

Foreign exchange assets increased by 19% from the beginning of the year, most of the rise being accounted for by foreign exchange loans, which rose by 60%. Foreign exchange liabilities increased by 53% over the year. The change in foreign exchange liabilities, and generally in the foreign exchange balance sheet position, was mostly caused by foreign exchange funds from banks. In December 2005, up to 92% of their volume consisted of foreign exchange funds from non-resident banks. These funds were mostly short-term deposits. Foreign exchange funds from banks increased by 73% from the beginning of the year. The increase in these funds was related to the growth in foreign exchange loans and the fact that they were invested in domestic assets in order to exploit the interest rate differential and the appreciation of the domestic currency. Banks used NBS sterilization repo tenders to deposit a large part of short-term foreign exchange funds from abroad.

The indirect foreign exchange risk in the banking sector is difficult to assess unambiguously

Included in the indirect foreign exchange risk is the vulnerability of banks to counterparties defaulting on loan repayments and to the effect that exchange rate changes have on their competitiveness. From discussions with banks, it is clear that a large part of the foreign exchange corporate loans are related to the export side of the corporate sector. These enterprises hold income denominated in foreign currency, while at the same time they pay for the majority of their imported inputs also in foreign currency. This gives rise to a so-called natural hedge against the risk of exchange rate fluctuations. Banks are

[59] *A position where liabilities are greater than assets.*

Table 10 Interest sensitivity of selected aggregates of the banking sector's assets and liabilities (%)

	III-2005	VI-2005	IX-2005	XII-2005
Interbank market and NBS – assets	–0.0007	–0.0007	–0.0006	–0.0006
Asset transactions with clients	–0.0116	–0.0095	0.0099	–0.0102
Securities transactions	–0.0203	–0.0168	–0.0187	–0.0203
Interbank market and NBS – liabilities	0.0049	0.0052	0.0049	0.0047
Liability transactions with clients	0.0046	0.0047	0.0048	0.0050
Other liability transactions	0.0329	0.0286	0.0254	0.0265

Source: NBS.
Note: figures express the percentage change in the value of interest-sensitive items of assets and liabilities upon a parallel increase in interest rates by 1 basis point.

also increasing currency positions within options, which are opened for clients in order to secure their open foreign exchange positions. On the other hand, it may be that corporate demand for foreign exchange loans is related to the expected appreciation of the domestic currency. Accurate data on the corporate sector's foreign exchange positions is not available at present. It is assumed that when providing foreign exchange loans, banks also assess the potential foreign exchange risk of enterprises.

INTEREST RATE RISK

Both assets and liabilities display relatively low interest rate sensitivity as a result of their short duration

For the period until their next revaluation or next fixing, most interest sensitive assets (79%) and liabilities (83%) were classified within maturity ranges of up to one year. On the assets side, the greatest sensitivity was reported among items with longer maturity ranges – securities and loans. As for liabilities, issued securities proved particularly sensitive, though these did not represent a significant part of the portfolio. Client deposits, the largest item in terms of volume, showed low sensitivity.

LIQUIDITY RISK

High liquidity supported widening of the maturity mismatch between assets and liabilities in banks

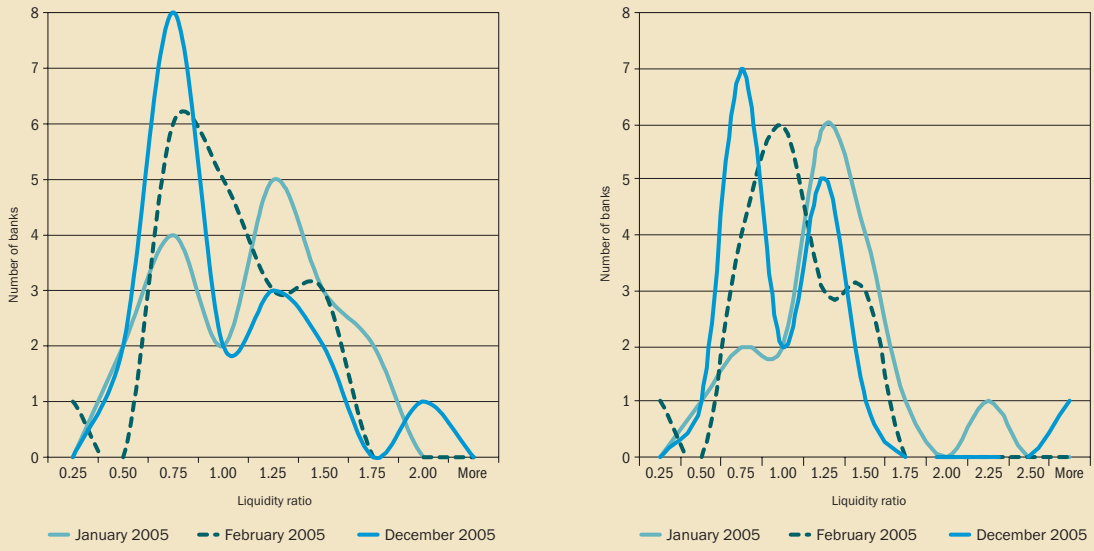
The Slovak banking sector reported relatively high liquidity in 2005. Unlike in neighbouring countries, however, this was concentrated in the central bank and not in the interbank market, which led to its relative lessening (during 2005, at a level of between 2% and 5% of the sector's total assets). Awareness of the high liquidity supported banking activities that led to widening of the maturity mismatch between assets and liabilities (especially the provision of long-term loans).

The change in liquidity ratios[60] was substantially affected by changes in the term structure of deposits and, on a short term basis, by the rejection of a sterilization repo tender in February

The change in the ratios was substantially affected by changes in the term structure of deposits. From the beginning of 2004 to December 2005, deposits of up to 7 days and deposits of up to 3 months increased their share of total deposits from, respectively, 52% to 64% and 85% to 91%. The majority of client funds are therefore held in current accounts. The rejection of a sterilization repo tender in February 2005 had a small short-term effect on the liquidity ratios for up to 7 days and 3 months. In comparison with January, the distribution of both ratios moved leftwards, meaning that more banks reported a lower value. In December, on the other hand, the ratios' distribution is concentrated around figures which are lower than those from the previous February (Chart 39). The instant liquidity ratio behaved analogously,

[60] *For measuring liquidity risk, the following four liquidity ratios were used: the instant liquidity ratio, liquidity ratio for up to 7 days, liquidity ratio for up to 3 months, and the ratio of fixed and non-liquid assets. The first three ratios are defined as the ratio of liquid assets and volatile assets within the respective category. The ratio of fixed and non-liquid assets is defined as the ratio of total fixed and non-liquid assets to selected items of own funds.*

Chart 39 **Distribution of liquidity ratios for up 7 days and up to 3 months in the banking sector**



Source: NBS.
Note: The broken line (February 2005) shows the period during which no sterilization tenders were performed.

its median value declining over the course of the year (almost linearly) from 59% to 53%. The ratio of fixed and non-liquid assets registered a slight rise in its median values.

For the whole 2005, all large and medium-sized banks reported a negative liquidity position for up to 7 days or 3 months

From December 2004, the negative position as a share of total assets increased in most of these banks. This is a natural consequence of the increase in current account balances and the provision of loans with longer maturities. Overall, as a share of total assets, the negative position in liquid funds maturing within 7 days or 3 months deteriorated over the year in 13 and 16 banks, respectively.

Box 7 The degree of maturity mismatch between assets and liabilities should be seen as a risk factor

Table A **Term structure of assets and liabilities of the Slovak banking sector**

	SA	SL	LA	LL	SA/A	SL/L	LA/A	LL/L
	SKK thousands				%			
2004	539,417	948,458	623,245	214,204	46.39	81.58	53.61	18.42
2005	677,609	1,155,824	728,523	250,308	48.19	82.20	51.81	17.80
Increase 2005/2004	25.62	21.86	16.89	16.85	-	-	-	-

Source: NBS, own calculations.
Note: SA = short-term assets, SL = short-term liabilities, LA = long-term assets, LL = long-term liabilities, A = assets, L = liabilities.

The ratio of short-term assets to total assets increased more quickly than did the ratio of short-term liabilities to total liabilities. Nevertheless, the degree of maturity mismatch is high. Over the course of 2005, the „short-term liabilities to short-term assets" ratio declined from SKK 1.76 to SKK 1.71. This still means, however, that only around 34% of long-term assets are covered by long-term funds. The maturity mismatch is even more pronounced when we abstract, on the one side, fixed assets and, on the other side, own funds. This is documented by the development of the said ratios in 2005. Long-term assets of the banking sector increased 3.5 times faster in comparison with long-term funds.

The asset structure of the banking sector includes a sufficient share of highly liquid assets, but the maturity mismatch between primary deposits and loans has deepened, especially in regard to households. Although

Table B **Term structure of assets and liabilities of the Slovak banking sector (SKK thousand)**

	LL – OC	LA – FA
2004	111,183	594,901
2005	141,289	700,594
Difference	30,106	105,693

Source: NBS.
Note: LL = long-term liabilities, OC = own capital, LA = long--term assets, FA = fixed assets

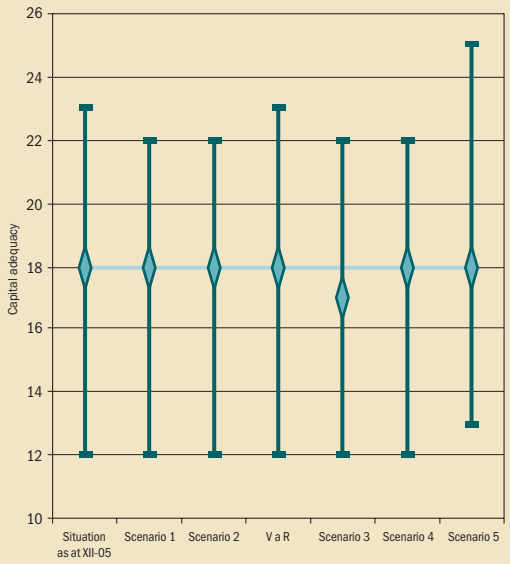
the general degree of credit risk is low and does not at present pose a threat to the financial and capital stability of the banking sector, a risk may be seen in the fact that not only households but also the interbank market is gravitating towards short-term funds. Regarding this factor of their volatility, attention should be paid to structure of own capital and the development of the banking sector's cash flow.

4.1.6 Stress-testing results[61]

Stress tests have shown that the Slovak banking sector does not have a problem to cover the foreign exchange and interest rate risk. Liquidity risk is largely related to deposits and short-term foreign funds in the banking sector. Credit risk would pose a problem for banks if lending grew quickly alongside deterioration in the quality of loans. In Slovakia, the risk of a domino effect (systemic risk) resulting from the failure of a bank is remote.

As regards credit, foreign-exchange, and interest-rate risk, we assessed the impact of changed conditions on capital adequacy by either deducting from or adding to the capital the loss or profit that would result if the respective scenario came about. In the case of liquidity risk, the effect of stress situations on the liquidity ratios is quantified. Stress tests were applied to all banks in the sector on the basis of the banks' positions in December 2005. Stress tests of systemic risk (the crash of one or more banks) were simulated on the basis of interbank relations in the first half of 2005. The effect on capital was not quantified for branches of foreign banks. Charts are used to evaluate the effects of particular stress scenarios. The effects of individual stress scenarios are evaluated in chart form. The methods and approaches used by the NBS in regard to stress testing are described in special annex C.1.

Chart 40 **Comparison of the effects that foreign exchange risk scenarios have on the distribution of capital adequacy in the sector (%)**



Source: NBS.

FOREIGN EXCHANGE RISK

Banks have sufficient capital to cover foreign exchange risk

Chart 40 shows the lower quartile, median, and upper quartile of capital adequacy distribution in the sector following the application of individual scenarios. It is clear from this that extreme changes in exchange rates should not threaten the stability of the banking sector. Most banks have a volume of capital sufficient to cover any substantial exchange rate fluctuations.

Stress testing of foreign exchange risk was performed on all banks in the sector. The testing was applied to the open foreign exchange positions in the most important currencies (EUR, USD, CHF, CZK, GBP, HUF, PLN, JPY). Exchange rates of the Slovak koruna against these currencies were also stress tested. Almost 100% of the selected currencies comprised balance sheet and off-balance sheet foreign exchange assets and

[61] *Methodological aspects of the relevant stress tests are described in further detail in Annex 1.*

liabilities. The foreign exchange assets were denominated mainly in EUR (82%), USD (10%) and CZK (5%). It was similar with liabilities: EUR (62%), USD (34%) and CZK (3%). Off-balance sheet assets and liabilities consisted mostly of items denominated in EUR (52%), USD (42%) and CZK (3%). The effects of the respective scenario on capital were evaluated using the sum change in the net foreign exchange position for all the currencies. We considered 6 scenarios.

Scenarios 1 to 3 expressed the historically "worst" exchange rate changes. These stress scenarios were based on exchange rate changes in the period from 1 January 2004 to 31 December 2005 during 10 working days. The 10-day period was selected on the assumption that positions will not be closed immediately in the event of sudden and substantial changes in the exchange rates and that the "worst" relative changes in the rates persist for the following 10 days.

In the first and second scenarios, the "worst" 10-day period was the same for the whole banking sector, being the period in which the banking sector as a whole suffered the largest loss. The banking sector as a whole would make its largest loss upon a recurrence of the exchange rate development in the period from 11 March 2005 to 29 March 2005 (scenario 1), or in the period from 14 April 2005 to 28 April 2005 (scenario 2). In both cases there was significant weakening of the Slovak koruna against the EUR (by 3.7% and 2.8%, respectively) and against the USD (by 7.1% and 3.0%). In the third scenario, the "worst" 10-day period was selected on a bank-by-bank basis, as the period during which the bank suffered its largest loss from an exchange rate fluctuation. Although the results of this scenario cannot be aggregated for the whole banking sector, this scenario may be used to supplement the VaR calculation since it represents the historically least favourable situations.

The VaR scenario states the assumed loss that (in the given bank) should not be exceed in 99% of cases, based upon the historical performance of exchange rates.

Scenarios 4 and 5 simulated exchange changes (depreciation or appreciation of the koruna against the euro) while taking into account correlations between the currencies. In periods of substantial exchange rate fluctuations (hectic periods), these correlations differ from the correlations estimated from historical development.

Scenario 3 had the most adverse effect on the banking sector with the median capital adequacy declining to 16.7% from an original level of 18.45%. The effect on capital adequacy is particularly negative under scenarios including an assumed depreciation of the domestic currency. The average ratio for the sector decreased under scenarios 1,2 and 4. With scenarios 1 and 4, there was not only a fall in the average ratio but also a decline in the median (from 18.45% to 18.21% and 17.90%, respectively). The development was the opposite in scenario 2, where the average ratio decreased but the median increased. The median was affected by the fact that a majority of banks reported a rise in capital adequacy ratio. The fall in the average value was caused by the high loss in two banks. Scenario 5 was based on the assumption of an appreciation in the domestic currency. Whereas the average capital adequacy value rose, the sector's median declined. This may also be explained by the fact that the effects of stress testing were different in two banks than in the others.

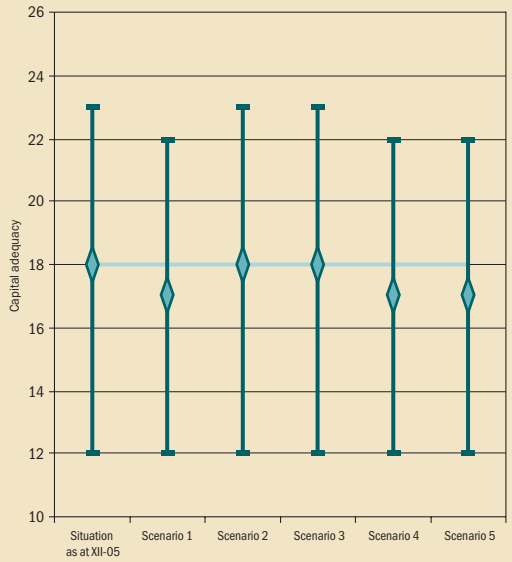
INTEREST RATE RISK

Capital coverage of interest rate risk is not a problem of the banking sector as a whole. Greater effects in individual banks are related to the specific structure of their balance sheet

As with foreign exchange risk, the banking sector is not significantly vulnerable to extreme fluctuations in interest rates. In 2005, the banking sector was sensitive mainly to the raising of interest rates during longer maturity ranges. This relates to the standard structure of banking assets and liabilities, where banks' assets have a longer duration than their liabilities.

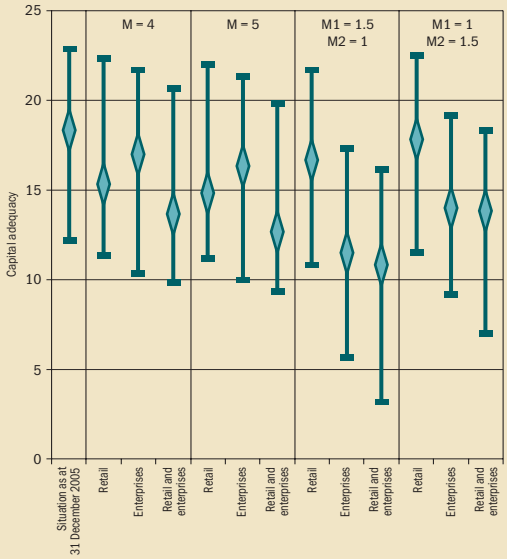
Stress testing of interest rate risk was aimed solely at interest rates in SKK and EUR. This is because assets and liabilities include a high-share of interest-sensitive items in these currencies. Interest rates were stressed by a shift in the yield curve. No assumption was made for an effect on interest rate margins. As a basis, we used historical fluctuations in interest rates (monthly changes in yields of ten-year, two-year, and one-month points on the yield curve since the beginning of 2003); the historical changes were, however, adjusted so that they both included the assumed development of interest rates and formed stress situations. The impact of the stress scenarios was calculated as the difference between the net present values of interest-sensitive positions before and after the application of the stress scenarios. This difference was deducted from the bank's capital. The main adverse effect on the banking sector would come from the increase in interest rates shown in Chart 42.

Chart 41 **Comparison on the effects that interest rate risk scenarios have on the distribution of capital adequacy in the sector (%)**



Source: NBS.
Note: The chart shows the lower quartile, median, and upper quartile of capital adequacy distribution in the sector following the application of individual scenarios.

Chart 42 **Comparison of the effects that credit risk scenarios have on the distribution of capital adequacy in the sector (%)**



Source: NBS.
Note: The chart shows the lower quartile, median, and upper quartile of capital adequacy distribution in the sector following the application of individual scenarios.

Scenarios 1 and 2 represent a shift in SKK and EUR yield curves (by 150 basis points and 130 basis points, respectively). Scenarios 3 and 4 express changes at the ends of the SKK yield curve. The third scenario represents a rise in interest rates by 150 basis points during the shortest maturity range of up to one month. The fourth scenario records the same increase in interest rates during the longest maturity period. Scenario 5 expresses a change in the steepness of the SKK yield curve (the decline in interest rates within one year and the rise in interest rates during longer maturity ranges. In this scenario, it was assumed that the one-year interest rate did not change).

In one bank, the decrease in capital adequacy represented 4 to 5.1 percentage points. The highest average fall in capital adequacy (1 percentage point.) occurred under scenario 1 (parallel rise in interest rates by 150 basis points). The decline in interest rates in long maturity periods had a substantial adverse effect (reduction of capital adequacy by between 2.5 and 2.8 percentage points) in only one building society, where short-term assets and long-term liabilities predominated. Under the standard stress testing of interest rate risk (parallel rise in interest rates by 200 basis points), the capital adequacy of the banking sector fell by an average of 1.4 percentage points.

CREDIT RISK

The deterioration of loans in itself, without an increase in lending volume, represents a problem only for individual banks. A serious problem for financial stability would be caused by a relaxation of lending criteria amid the current acceleration in the lending growth

The mere volume growth in non-performing claims does not have a significant effect on banks – only in isolated cases would they find themselves in more serious difficulties. At the same time, corporate lending has a greater effect. A combination of faster lending growth and a deteriorating structure of the credit portfolio is impairing capital adequacy in several banks. The deterioration in the portfolio structure has a greater adverse effect on banks than does the actual acceleration in total lending growth. As regards financial stability, the key piece of information is that fast lending growth does not in itself represent a risk to the banking sector, but fast lending growth accompanied by the relaxation of lending criteria does.

Credit risk stress scenarios simulated the consequences of an increase in classified claims on banks' own funds. Stress testing was performed for households and enterprises (individually and together).

Scenario 1 simulates the impact made on banks' own funds when the credit portfolio structure is impaired by the transition of standard and special mention loans into the category of non-performing loans. At the same time, the volume of risk-weighted assets remains unchanged. The increase in non-performing claims is designated as a month-on-month maximum in 2005, adjusted by the stress factor (M). Scenario 2 simulates faster growth in total loans, while, in the basic variant, the share of non-performing claims remains unchanged. The scenario assumes that when the loan is provided, the risk of eventual loan default and therefore a loss to the bank is underestimated. We also simulated a combination of the said scenarios, i.e. situations where the share of non-performing loans increases at the expense of standard loans (stress factor M1) and meanwhile there is faster growth in total loans (stress factor M2).

Results from the first scenario show that a majority of banks would continue to have a capital adequacy of more than 10%. For M=5, the problems in certain banks would be exacerbated. This scenario has a critical impact primarily on medium-large banks. Results from the second scenario make clear that even with a small deterioration in the portfolio structure (M1=1.5), at the current faster lending growth, own funds in certain banks are already being fully consumed by the losses incurred.

LIQUIDITY RISK

Liquidity risks are related mainly to deposits and short-term funds of foreign banks

The simulated decline in the value of government bonds did not have a substantial effect on banks. The sudden withdrawal of 20% of client deposits had a greater effect on large and medium-sized banks. The sudden withdrawal of 90% of foreign bank deposits had a greater effect on certain medium-sized banks and on banks tied in terms of resources to their financial groups.

A specific scenario needs to be designed for liquidity risk testing since the connection between liquidity risk and capital adequacy is not clear-cut. For example, banks with liquidity problems may incur a loss through the rapid selling of securities. The effect of such a situation on a bank may, however, be mitigated by existing credit lines to other banks or the parent bank. That is why we did not seek to establish a direct impact of liquidity changes on capital adequacy, but rather the impact that three scenarios, each changing banks' liquidity, have on the selected liquidity indicators (the instant liquidity ratio, the liquidity ratio for up to 7 days and the liquidity ratio for up to 3 months.

The first two stress scenarios are standard, in variations used by central banks within the EU. The third attempts to reflect the situation in the Slovak banking sector.

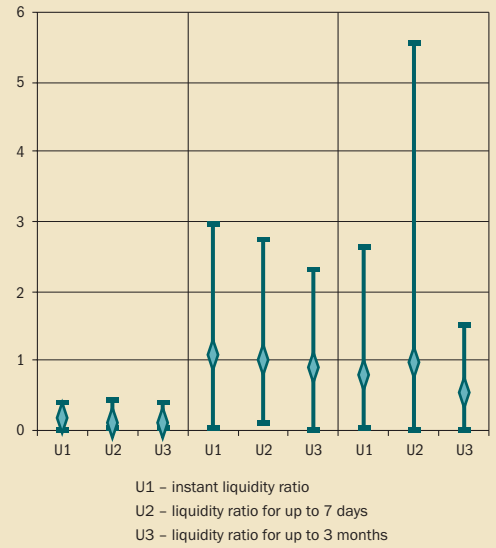
Scenario 1 represents a 10% decline in the value of government bonds and treasury bills in the bank's portfolio. One reason for the depreciation of government bonds could be an increase in interest rates.

Scenario 2 represents an unexpected 20% decline in client deposits (in all maturity ranges).

Scenario 3 represents an outflow of short-term capital from the banking sector owing to external reasons, for example, a 90% decrease in deposits of non-resident banks.

We assessed the scenario's impact by comparing the percentage change in the liquidity ratio against the month-month percentage change in the same ratio in 2005. Where the ratio change under the given scenario is similar to its usual month-on-month change, it is not considered significant.

Chart 43 **Comparison of the effects of different liquidity risk scenarios**



Source: NBS.
Note: The chart shows the lower quartile, median, and upper quartile of distribution of the share of liquidity ratio changes after applying each scenario to the average month-on-month changes in 2005. The vertical axis shows the multiple of this change.

SYSTEMIC RISK[62]

The crash of one bank threatens the fulfilment of capital adequacy requirements by two banks at most. A spillover of failure in the banking sector is, however, unlikely

The failure of one bank could cause two banks at most to fall below the capital adequacy limit of 8%. They are the banks that are more exposed to the interbank market. The so-called domino effect, i.e. the further spillover of failure, is unlikely, though, since the volume of loans which banks provide to other banks accounts for only around 5% of all assets. Banks in the euro area have a higher interconnection (around 15%), and so the systemic risk is also higher in that banking sector.

Systemic risk (contagion risk) is understood herein to mean the crash of one bank. The consequences of this situation depend on the nature and intensity of the connections between banks through deposits and loans on the interbank market. They also depend on the extent to which the bank's capital coverage of these loans exceeds the regulatory minimum. The simulation does not include non-resident banks or the hedging of provided loans. It is assumed that the crash causes a full loss (LGD=100%) and also that the crash happens unexpectedly.

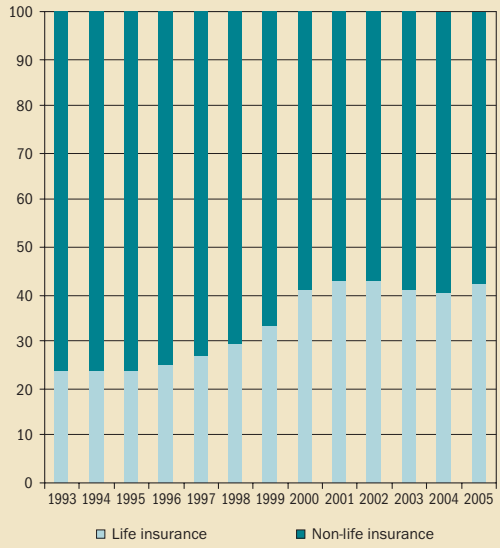
4.2 Insurance sector

4.2.1 Premium written

The pace of growth in non-life insurance underwriting fell sharply in 2005

Total premium written in 2005 amounted to SKK 51.7 billion, representing a year-on-year increase of 7.5%, the lowest since tracking began in 1993. Life insurance increased by 13.5%, its highest growth for three years. Premium written in non-life insurance rose by only 3.5%. The increase in non-life insurance was therefore substantially lower in comparison with previous years, which saw annual growth of more than 12% per year from 2000.

Chart 44 **Life and non-life insurance by share of total premiums written (%)**



Source: NBS.

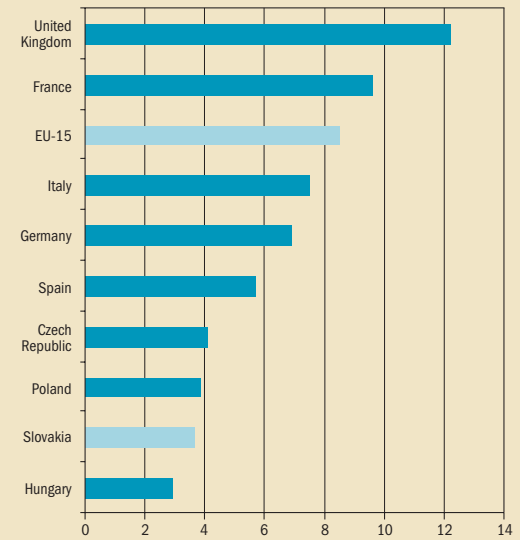
The faster growth in life insurance had been generally expected – it was supported by a tax allowance introduced in the previous year.[63] Nor did the slowdown in non-life insurance come as a surprise – it had been expected since the market in compulsory contractual insurance of motor vehicles was liberalized at the end of 2004.

Life insurance grew strongly in the three most important classes

The largest of them – assurance on survival to a stipulated age or an earlier death (A1) – grew by 12.2%, and with premiums written worth SKK 13.4 billion, it accounted for 61% of total life insurance. The sharpest increase of 31% was recorded by the second largest class – life insurance related to an investment fund (A4). As for the third largest class – accident or sickness insurance, when representing supplementary insurance to some class of assurance – it increased by 13.4%.

[62] *Analysed only for the first half of 2005.*
[63] *Under the tax allowance, a client meeting the legally stipulated conditions may each year deduct from his income tax base up to SKK12,000 that he pays in insurance premiums.*

Chart 45 **Ratio of premium written to GDP in certain European countries (situation as at 31 December 2004)** **(%)**



Source: NBS.

The insurance structure in Slovakia does not yet correspond with the Western standard

In Slovakia, non-life insurance continues to dominate the insurance market, whereas in advanced European countries, life insurance has the largest share of insurance markets, with households using it as a means of saving. After rising sharply in the second half of the 1990s, life insurance has had a largely unchanged share over the past six years, fluctuating between 40% and 43% (Chart 44). The longer term expectation is, however, that it will increase and that life and non-life insurance will gradually reach an equilibrium.

Within non-life insurance, up to two thirds of premium written are for compulsory contractual insurance of motor vehicles (CCI – B10a, 39% of the market) and motor accident insurance (B3, 29% of the market). In Slovakia, there is relatively low penetration of insurance of non-motor property.

The ratio of premium written to GDP decreased slightly year-on-year

Over the past three years, total premium written have maintained a constant level of around 3.5%. This is substantially less than the average for advanced European economies, though similar to the ratio in the Czech Republic, Hungary and Poland (Chart 45).

Share of premium ceded to reinsurers declined

The passive reinsurance of Slovak insurance companies is provided exclusively by foreign reinsurers. For the past four years, no Slovak insurer has reported written premium in active reinsurance. Of total written premium in 2005, written premium ceded to reinsurers amounted to SKK 10.3 billion, or 20% of total premium written. That represents a decrease of 2.7% year-on-year (Table 11).

4.2.2 Indemnity costs and loss ratio

Indemnity costs increased year-on-year by 0.9% to SKK 17.4 billion

This was the lowest growth in this indicator since tracking of it began in 1996. Although indemnity costs in life insurance increased by 10.6%, continuing their roughly linear rise since 1996, those in non-life insurance fell by 5.11%, almost to their level in 2000. This contrasts sharply with premium written in non-life insurance, which since 2000 have risen by up to 80%. The main factors behind the 2005 development were fewer insurance events and a lower value of claims in the classes B3 (motor accident insurance) and B8 (insurance of property against fire and natural disaster).

Table 11 **Premium ceded to reinsurers** **(SKK billion)**

	2005 SKK billion	2004 SKK billion	Change %	Share of premium %	
				2005	2004
Total	10.3	10.6	–2.7	19.9	22.0
Life insurance	1.3	1.1	23.4	6.1	5.6
Non-life insurance	9.0	9.5	–5.7	30.0	33.0

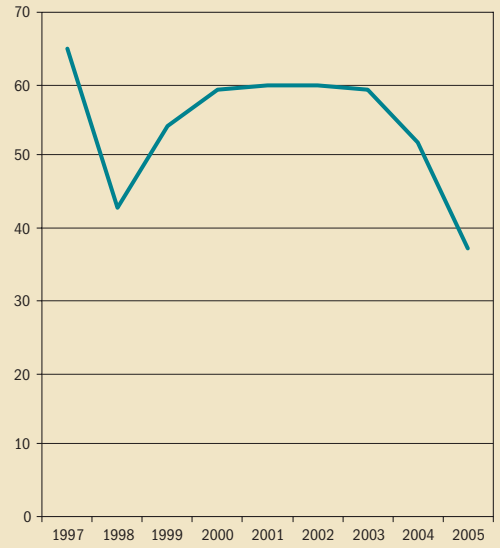
Source: NBS.

The loss ratio fell sharply[64]

The loss ratio is tracked only in non-life insurance. After declining in 2004, to 52%, the loss ratio fell further last year, down to 39%, the lowest figure since its tracking began in 1997 (see Chart 46). The loss ratio decreased in all the principal categories of non-life insurance and especially in motor vehicle insurance: for compulsory contractual insurance (B10a), it fell by more than 20 percentage points (from 63% to 42%); and for motor accident insurance (B3), it declined from 63% to 46%. In property insurance (sum of classes B8 and B9), the loss ratio fell from 28.1% to 26.7%. Besides the above-mentioned factors, this development was affected by the growth in earned premiums and the decline in indemnity costs.

Chart 46 **The loss ratio since 1997**

(%)



Source: NBS.

The share of indemnity costs ceded to reinsurers decreased

Of the total indemnity costs, SKK 3.1 billion was ceded to reinsurers. That represents a decrease of 9% year-on-year (see Table 12).

4.2.3 Financial results of insurance companies

Insurance companies' profit sharply increased

Insurance companies made an overall profit of SKK 2.73 billion for 2005, representing an increase of 24.1% year-on-year. Gross profit in non-life insurance reported the sharpest increase (by 169% year-on-year), largely owing to the rise in earned premium amid the current decline in indemnity costs. Gross profit in life insurance increased by 17.8% year-on-year. In contrast to non-life insurance, life insurance reported an increase not only in operating costs (by 7.2 %) but also in indemnity costs (by 10%, to SKK 7.3 billion). Earned premiums rose by 12.7% to stand at SKK 20.5 billion. Financial investment gains basically stayed flat owing to the more substantial decline in revenue from financial investment (from SKK 11.3 billion to SKK 9.8 billion), while financial investment costs fell only slightly. The aggregate ROE for the sector remained unchanged at 12.3%.

Market concentration continued to decline

The degree of concentration in the insurance market decreased. The three largest insurers saw their share of premium written fall from 67% to 64%. The three largest insurers by volume of premiums written accounted for 91%, and the five largest insurers for up to 99%, of the insurance sector profit.

Table 12 **Indemnity costs ceded to reinsurers** **(SKK billion)**

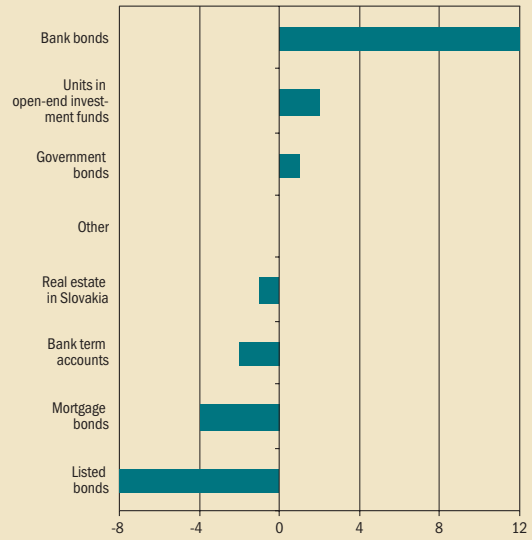
	Indemnity costs ceded to reinsurers	Total indemnity costs	Share %
Total	3.1	17.4	18.0
Non-life insurance	3.0	10.1	29.4
Life insurance	0.1	7.3	2.1

Source: NBS.

[64] *The loss ratio is a percentage ratio of the sum of indemnity costs and the change in the technical reserve for gross insurance benefits (RIB) to gross premium written after subtracting the change in the gross technical reserve for insurance premium of future periods (RIFP), the so-called earned premium.*

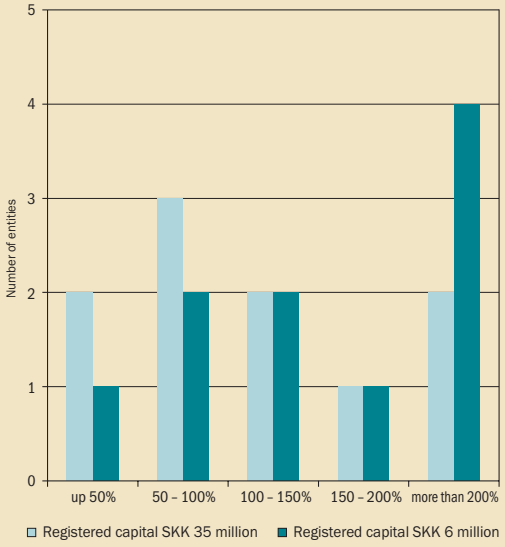
Chart 47 **Changes in the allocation of technical reserves between 2004 and 2005**

(%)



Source: NBS.

Chart 48 **Breakdown of capital adequacy of non-bank stockbrokers**



Source: NBS.

In comparison with the banking sector, the profit in the insurance sector was more concentrated. Five insurers reported a loss in 2005.

4.2.4 Technical reserves of insurance companies

The technical reserves of insurance companies continued a rising trend in 2005, and there were no significant changes in their allocation

Insurance companies increased their technical reserves by 13% year-on-year, to stand at SKK 77 billion as at 31 December 2005.[65] As regards the allocation of technical reserves, there were no substantial changes (Chart 47). As at the end of 2005, up to 51% of them were invested in government bonds and bonds of EU central banks, representing a rise of 5 percentage points in comparison with 2004. A further 15% were invested in bank bonds, 16% in term deposits with banks, and 11% in mortgage bonds. These four largest categories altogether accounted for up to 88% of the total allocation. Only a small part of the reserves were placed in potentially riskier investment categories – 4% in real estate and 0.13% in shares.

4.3 Stockbrokers

4.3.1 Capital adequacy

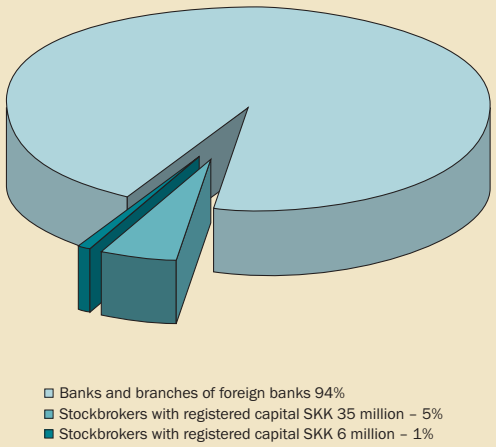
Capital adequacy was above the legally stipulated limit of 8%

Certain non-bank stockbrokers recorded considerable fluctuations in their capital adequacy over the course of the year, caused by the major change to credit and market risks inherent in their assets. Yet all securities dealers sustained the ratio at a relatively high level above the legally stipulate minimum limit of 8% (Chart 48). The total volume of risk weighted assets owned by these stockbrokers represented only SKK 1.1 billion at the year-end, far less than the SKK 600 billion recorded by banks. Therefore the risk posed to the financial market from stockbrokers' potential non-adherence to this requirement was negligible.

The number of foreign undertakings conducting business in Slovakia increased significantly in 2005 owing to the simplification of the licensing process that followed Slovakia's accession to the EU

[65] *Total technical reserves – including reserves for the coverage of risks arising under the investment of funds on behalf of policyholders (the so-called unit-linked reserve) – rose year-on-year by 15%, to SKK 84.23 billion.*

Chart 49 **Types of stockbrokers by share of transactions in 2005**



Source: NBS.

Chart 50 **Volume of investments in open-end investment funds in Slovakia**
(SKK billion)

Source: NBS.

As at 31 December 2005, the number of undertakings holding a stockbroker's licence in Slovakia stood at 36. As at the end of 2005, the number of foreign entities operating as stockbrokers in Slovakia under the single European licence system stood at 204, of which two operated through branches. By comparison, there were 85 as at 31 December 2004. Transactions for clients continued, however, to be performed almost exclusively by banks (Chart 49) and registered a decline in volume over the course of the year. Most of the trading involved forward transactions and money market instruments. The volume of managed assets fell slightly.

The volume of client transactions carried out under investment services declined from SKK 1.992 billion to SKK 1.639 billion

Transactions were performed predominantly for the account of the service provider, and they mostly involved forward transactions (SKK 570 billion) and money market instruments (SKK 492 billion). The volume of managed client assets decreased from SKK 24 billion to SKK 18 billion.

4.4 Collective investment

The number of foreign undertakings operating within the single European licence system increased

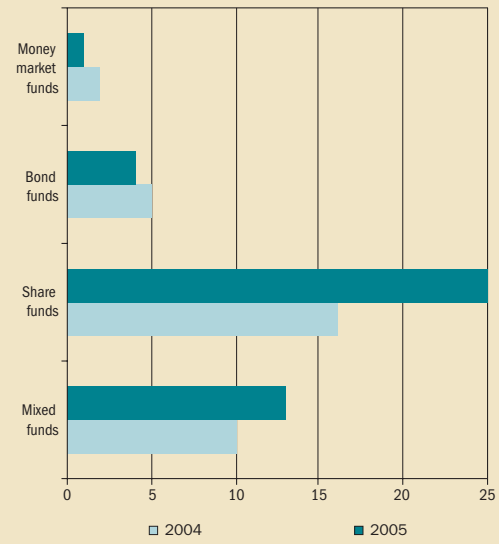
As at 31 December 2005 there were 10 domestic asset management companies and 17 foreign collective investment undertakings operating in Slovakia. Compared with same period of the previous year, there were 2 new asset managers and 12 new foreign undertakings.

Net asset value in open-end investment funds continued to rise, and the market share of the three largest companies declined

The net asset value in open-end investment funds selling in Slovakia maintained its rising trend in 2005 (Chart 50), gaining SKK 53 billion (77%) to SKK 123 billion as at the end of 2005. Nevertheless, the growth of investments into investment funds was slowing down over the course of the year. While the monthly value of issued units represented SKK 19.9 billion in the first quarter, it was only SKK 6.3 billion by the last quarter.

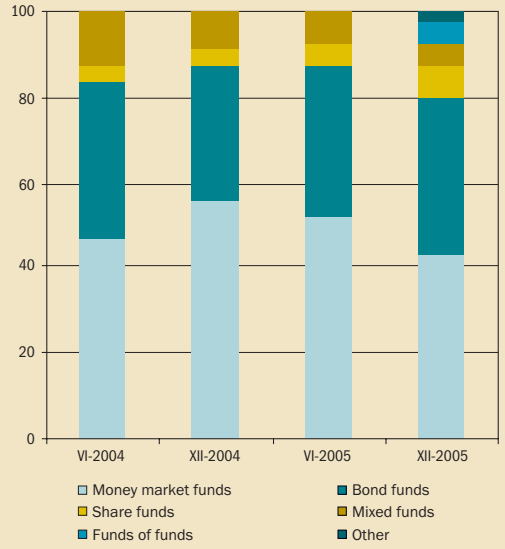
In 2005, the three main asset management companies saw their market share slip slightly, from 81%

Chart 51 **Year-on-year comparison of average performance of open-end investment funds selling in Slovakia** (%)



Source: NBS.
Note: Data on the horizontal axis are in % per annum. Each fund has the same weight.

Chart 52 **Structure of assets in open-end investment funds according to fund type** (%)



Source: NBS.

to 77%, largely because of foreign funds – sales in their units increased, and their share of the managed assets of Slovak unitholders rose from 12% at the beginning of the year to 17% at the end. This was probably because the number of foreign funds on the market (296) was higher in comparison with the previous year (193), and also because of the better historical performance of the riskier funds managed by foreign undertakings.

The riskier group of funds was more attractive towards the end of 2005

In 2004, investors were mostly attracted to money market funds, which recorded net sales of SKK 23 billion. Other funds sold only SKK 6 billion. During 2005, the situation in sales changed substantially. Falling money market rates and significantly higher yields in other types of funds (Chart 51) led to an outflow of unitholders from this category (Chart 52). A strong year in European and Japanese equity markets increased the popularity of riskier funds, and they ended the year absorbing virtually all the new capital (SKK 5.4 billion out of SKK 6.3 billion worth of total sales in the last quarter of 2005).

4.5 Pension savings[66]

All pension fund management companies made a loss for 2005

The loss stemmed from high costs related to promoting and establishing the network of intermediaries and branches. In 2005, the pension savings market featured 8 pension fund management companies managing 24 pension funds in total. The net value of assets in pension funds rose from zero to SKK 9.04 billion during the year.

Although pension savers gravitated towards the riskiest funds, growth funds, assets were invested in a very conservative way

The majority of pension savers (65%) favoured growth funds marked by riskier investment behaviour. Balanced funds were the choice of 31% of savers, while conservative funds attracted a mere 4%.

Despite growing throughout the year, assets managed by pension funds were invested in a very conservative manner. As at 30 June 2005, 99%

[66] *See also Annex 2.*

of all pension fund assets were deposited in bank accounts. By the end of the year, this share had dropped to 82%. As at 31 December 2005, bonds accounted for 11% and were denominated only in SKK. By contrast, up to 92% of shares (making up 6% of assets) were denominated in euros or other foreign currencies. Looking back at 2005, there is clear trend of shares and bonds accounting for a growing share of total investments. Given the large share of growth funds and swelling pension fund assets, expectations are for a much more aggressive investment strategy coupled with a greater diversification of assets.

4.6 Stock exchange

The Bratislava Stock Exchange (BSSE) saw mixed developments in 2005

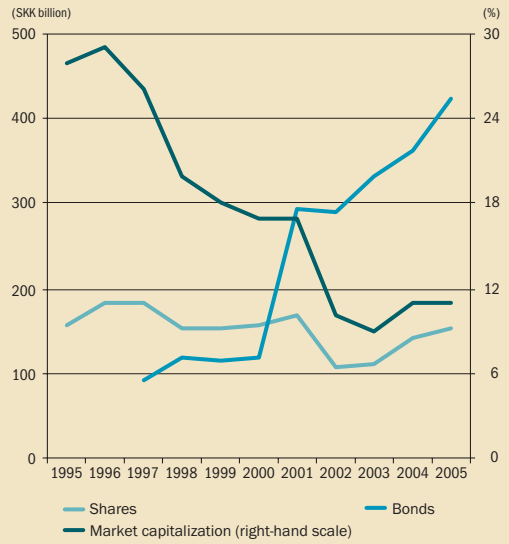
The volume of transactions grew by 132% in 2005 to reach their second highest ever level. By contrast, the number of transactions declined by 38.7% to the lowest level since 1993. The number of securities traded also fell, by 10.9%, to a level unseen since 1994. New issues had a total value of SKK 83 billion, though up to 81% of them were government bonds. Bond issues accounted for a mere 0.5 billion and share issues of non-financial corporations for SKK 0.3 billion. In other words, the stock exchange still fails to play a significant role in private sector financing.

Total market capitalization increased

At the end of 2005, the BSSE listed a total of 381 securities issues on its markets, including 35 issues on the main listed market, 46 on the parallel listed market, none on the new listed market, and 300 on the open market. One of the open-market issues was a eurobond.

The total market capitalization of all BSSE-listed securities amounted to SKK 573.6 billion as at 31 December 2005, an increase of 14.1% in comparison with 2004. Of that total, 83.5% comprised the capitalization of issues listed on the main or parallel market.

Chart 53 **Market capitalization of shares and bonds, and the ratio of share market capitalization to GDP**



Source: BCPB.

4.7 Risks arising from financial sector developments in 2005[67]

- Increasing maturity mismatch between the banking sector's assets and liabilities, supported by high liquidity.
- Weak competition in certain products provided by banks to retail clients.
- Persistently high concentration in the insurance sector.
- Continuing insignificance of the capital market as regards its role in private sector financing.

The liquidity gap in the banking sector widened in 2005

In 2005, most large and medium banks saw an increase in the ratio of the negative liquidity position (up to 7 days and up to 3 months) to total assets. The widening maturity mismatch between assets and liabilities, most marked in regard to the household sector, stems from the growth in long-term lending and also the rise in current account balances. The banking activities that led to this situation (especially the provision of long-term loans) may have been supported by high liquidity

[67] *Credit risks are covered in Part 3.*

in the banking sector. Free funds in the sector are, however, extremely volatile and they are, unlike in neighbouring countries, concentrated in the central bank (National Bank of Slovakia) rather than in the interbank market. That is why the interbank market is so small in terms of volume – during 2005, it represented between 2% and 5% of the sector's total assets. Although stress scenarios have not indicated any significant impact on the liquidity of the sector as a whole, the situation will need to be kept under review.

Competition in certain banking products could be improved by greater transparency

Transparency in banks' business is, in our view, one of the key conditions of financial sector stability. Low transparency over the long-term could dent depositors' confidence in banks, while client confidence in banks is a significant factor in the healthy functioning of the financial sector. Orientation in the Slovak market is made much more complicated by the difficulty in comparing price conditions between banks. Therefore price competition in the retail segment, especially in regard to deposit products and services related to them and consumer loans, appears to be severely restricted. This matter is partly addressed by the amendment to the Banking Act. On this basis, since 1 July 2006, the NBS website has provided information on selected types of fees that banks impose on clients.

In addition, the European Commission in June 2005 launched a sectoral survey of economic competition in the retail markets of banking and commercial insurance. Within this research, the EC is also focusing on current accounts and related services. On the basis of information gained from the research, the EC is elaborating an interim report on economic competition in the current account and related services market. This is due to be published for consultation in summer 2006, and in its final form by the end of the year.

Concentration in the insurance sector remains high

Although the market share in terms of premium written of the three largest insurers is on a downward trend, it continues to be very high. It declined from 67% in 2004 to 64% in 2005. The three largest insurers accounted for 90%, and the five largest insurers for up to 96%, of the insurance sector profit. In comparison with the insurance market, concentration in the banking market is substantially lower. This is a drawback for financial stability, although the risk is most unlikely to materialize given the favourable financial situation in the leading insurers and the overall auspicious outlook for the insurance sector in Slovakia.

The capital market remains barely functioning

The long-time low liquidity and capitalization of the Slovak capital market represents a drawback for financial stability. The capital market is not fulfilling its core function to be a source of finance for the private sector.[68] The result is a concentration of credit risks in the banking sector. Capital market development could be stimulated by demand for investment opportunities from the newly-established pension fund management companies. In addition, the Slovak Government has the objective of removing obstacles to the development of the capital market and of supporting its development through various measures.

[68] *A study by the Slovak Ministry of Finance (An analysis mapping the main obstacles to capital market development and to Slovak enterprises taking an effective approach to the capital market, December 2005) found that the main causes of this situation are not legislative, but rather economic, regional and historic.*

5 SIPS interbank payment system – security and reliability in 2005

SIPS system activities in 2005 may be positively evaluated as regards the risks they pose to financial stability

The system worked reliably and without disruptions. The payment system functions are being continuously developed so as to deliver a more efficient and operationally reliable system. Regular testing of the emergency transmission of data was launched. The number of processed transactions increased moderately. The value of processed transactions rose sharply and therefore so did the average value per transaction. This is related to the increase in average value of priority transactions.

The SIPS system was expanded in 2005 to include additional participants on the basis of the single banking licence

The year ended with the NBS operating the SIPS system for 28 participants, of which 26 were direct participants and 2 were third parties.

The emergency transmission of data was tested by the NBS at the end of 2005

The testing was compulsory. Its objective was to verify the technical, personnel and organizational preparedness of SIPS participants as regards using emergency data transmission when data cannot be delivered through the standard electronic route (owing to a failure of the participant's software or the NBS's software, or a failure of the data transmission infrastructure). Under the Contract on the SIPS Payment System, each participant is required to perform an emergency transmission at least once per year. This first testing was led by the NBS, and further testing will be conducted on an individual basis, upon agreement between the participant and the NBS.

Further development of the SIPS system should increase its reliability and security

Preparations continued in 2005 on the project for the automated provision of intraday credit and the management of hold queues of priority payments[69] in the SIPS system. This project also addresses the efficiency with which the SIPS system is able to execute requests related to monetary interventions made during the operation of the exchange rate mechanism ERM II. Technological changes are also being implemented which should increase security and reliability as regards the transition of the SIPS operation from the main technological centre to the backup technological centre. Another aim is to increase the system's capacity for processing and transmitting data on priority payments.

The number of transactions made through the SIPS system increased by 10.12% in comparison with 2004

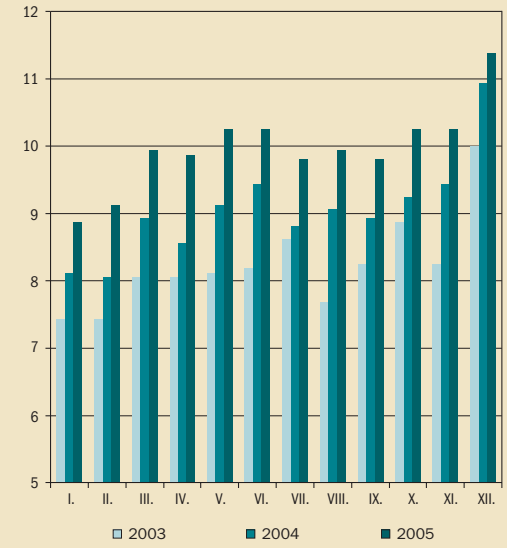
Altogether, the SIPS system processed almost 120 million transactions in 2005, confirming the rising trend from previous years.

The value of processed transactions soared in 2005

Whereas the value of transactions processed in the previous year amounted to SKK 40,692 billion, the value in 2005 came to almost SKK 80,000 billion. The growth relates to transactions in the

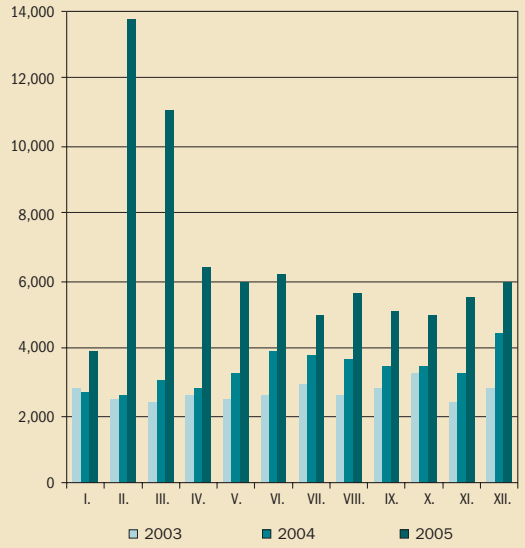
[69] *Priority payments are typically high-value payments, e.g. interbank money market payments, which are processed and settled in real time within the SIPS system. Normal payments are small-value payments, typically being standard interbank payments or client payments.*

Chart 54 **Number of transactions processed in SIPS (million)**



Source: NBS.

Chart 55 **Value of transactions processed in SIPS (SKK billion)**



Source: NBS.

interbank money market and the use of monetary operations (foreign exchange interventions, open market operations).

The fastest growth among all types of transactions was recorded by client and interbank priority payment orders

Although priority payments as a share of the total number of executed transactions represented only 0.13%, their settlement value increased from 44% to 63% of the value of all payments processed in 2005.

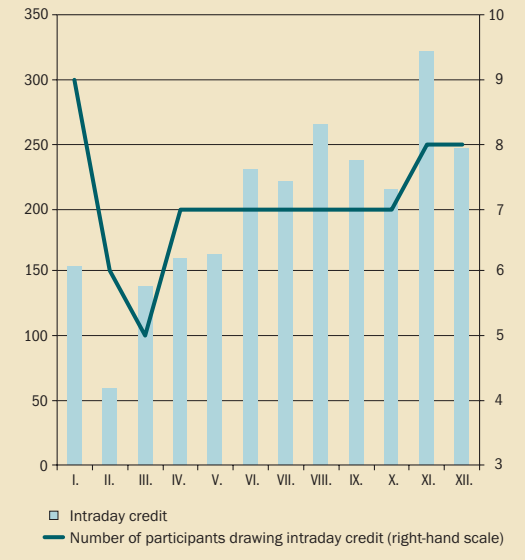
The NBS supports the smooth operation of the payment system by providing intraday credit

In 2005, SIPS participants who applied for intraday credit were provided such credit in the total amount of more than SKK 2,417 billion.[70]

The main instruments of the non-cash payment system are electronic payment instruments (bank payment cards, internet banking, home banking or telephone applications). The number and volume of EFTPOS transactions increased. Though cash withdrawals continued to predominate, their weight is decreasing

As at 31 December 2005, the number of active bank payment cards in circulation stood at

Chart 56 **Volume of intraday credit in 2005 (SKK billion)**



Source: NBS.

[70] *The amount of provided intraday credit is deemed to be the value of the securities (less deduction) that the NBS accepted from participants as collateral for the credit. This is the maximum limit, set on a weekly basis, up to which participants may draw down the intraday credit. The actual drawing of the credit is not at present subject to statistical tracking.*

4,036,867, which represents an increase of 11% in comparison with 2004. Bank clients in Slovakia may use a network of 1,855 ATMs and 18,981 EFT-POS payment terminals. In 2005, bank payment card holders made more than 108 million card transactions in a total amount of more than SKK 247 billion. In comparison with 2004, the number of transactions increased by 9% and the value of transactions by 18%. The number of ATM cash withdrawals made in 2005 stood at 75.288 million and had a total value of SKK 213.89 billion, which represents a 3% rise in the number of withdrawals and a 14% increase in their value in comparison with 2004. In 2005, EFTPOS terminals were used to make a total of 31.969 million payments with an overall value of SKK 42,063 billion, which compared with 2004 represents an increase of 21% in the number of payments and 34% in the value

Slovakia is cooperating intensively with international institutions in the payment systems sector

The cooperation concerns the development of European legislation and its implementation, the collection of statistical data for own requirements and for compilation of the "Blue Book", and preparatory work for the system TARGET2.

Credit risk in the SIPS system is small. Demands on its operational reliability are increasing

To sum up, the SIPS system features a high degree of reliability and a low credit risk for the payment system's organizer (the NBS) and participants. The payment credit risk is eliminated by the fact that a payment will only be made if the participant has sufficient funds on account with the NBS or has agreed to cover it with a satisfactory credit line – i.e. it draws the intraday credit secured by collateral. Draft modifications to the payment flow management (FAFO[71]) will allow for greater flexibility and make the execution of payments faster. The increase in the average value of priority payments and the increasing automation of payment system activities are increasing demands on the operational reliability of the payment system, its software, hardware and organizational provision.

[71] *First-available-first-out. The first payment is made according to the order of payments for which the participant has funds. Payment are carried out in the regime FIFO (first-in-first-out, therefore in the order in which they were entered), but if any payment does not have sufficient funds, the next payment to be made shall be the one next in line for which there are sufficient funds.*

6 Financial market supervision

6.1 Rulemaking activity

Rulemaking activity in the financial sector in 2005 comprised mainly the harmonization of Europe-wide financial regulation

The most important event in banking regulation in 2005 was the entry into force of NBS Decree No. 12 of 26 November 2004 on risks and a system of risk management. Through this decree, many of the qualitative requirements arising under the amended EU Directives 2000/12/EC and 93/6/EEC were incorporated into banking regulation.

In the insurance industry in 2005, rulemaking activity was centred on making Slovak legislation fully compatible with EU Directives.[72] In this regard, amendments were made to the acts on insurance and on compulsory contractual insurance against civil liability for the use of a motor vehicle. A new act[73] governed the intermediation of insurance and reinsurance and established a register of insurance and reinsurance intermediaries.

In the segment of investment firms and capital market, there was the key implementation of Directive 2003/11/EC (Prospectus Directive), Directive 2003/6/EC (Market Abuse Directive), Directive 2002/87/EC and Directive 2002/47/EC. In addition, intensive preparations were made towards implementation of the MiFID Directive.[74] Probably the most significant change in the capital market sector was the creation of legislative conditions allowing for a special mutual fund in real estate to be established and for independent record-keeping by the depositary and asset management company. In the area of pension savings, new laws were adopted on old-age pension savings and supplementary pension savings, and the Slovak Finance Ministry issued six decrees.

6.2 Licensing activity

Licensing activity was intense in 2005 owing to the activities of market players

The most important decisions taken by the NBS Banking Supervision included the decisions on expanding and supplementing the banking licence, decisions enabling a bank to become a subsidiary and the decision on registration of a foreign bank's representation.

As regards the insurance sector, the bulk of licensing activities in 2005 concerned the granting of prior consent to the selection of persons nominated to be members of the statutory bodies of insurance companies, the conduct of intermediary activities by insurers for other financial institutions, and the acquisition of an interest in the registered capital of an insurance company. In regard to the dissolution of the company Vzájomná životná poisťovňa Sympatia, a.s., the FMA[75] approved the transfer of its insurance stock. The FMA did the same for the insurance stock of CREDIT SUISSE LIFE & PENSIONS POISŤOVŇA, a.s. (now Winterthur poisťovňa, a.s.) to its branch based in Slovakia. In terms of application numbers, licensing activities mostly concerned licences for insurance mediation.

[72] *2002/92/EC on insurance mediation and 2002/87/EC on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate.*
[73] *Act No. 340/2005 Coll. on insurance mediation and reinsurance mediation, with consequential amendments.*
[74] *MiFID – Markets in Financial Instruments Directive.*
[75] *The Financial Market Authority has been merged with the NBS since 2006.*

In the pension savings sector in 2005, ownership changes affected undertakings in both the 2nd pillar of pension savings (DSS – pension fund management companies)[76] and in the 3rd pillar (DDP – supplementary pension companies).[77]

In the collective investment sector, licences to establish and carry on the activities of asset management companies were approved, as were decisions on expanding the scope of licensed activities, mergers of investment funds, and the conversion of closed-end investment funds into open-end investment funds. Licensing activity in the first half of 2005 was largely taken up with bringing the statutes of open-end funds of local asset management companies into line with the provisions of the Collective Investment Act, which incorporated Directive 85/611/EEC as amended by Directive 2001/107/EC and Directive 2001/108/EC (UCITS III.). In addition, decisions were issued concerning the approval of changes to the operational rules of the Central Securities Depositary of the Slovak Republic, a.s. (CDCP) and changes to stock exchange rules of the BSSE, as well as decisions on the approval of securities prospectuses and the approval of mandatory takeover bids.

6.3 Exercise of supervisory functions in Slovakia

Only a few serious findings were made in financial companies. Shortcomings came to light at the Central Securities Depositary (CDCP) and the Social Insurance Agency

Financial market supervision was exercised in both of its forms: remote supervision and on-site inspection. On-site inspection in financial companies focused on checking those activities which are important for the secure and stable operation of different types of financial companies. In order to protect the interests of investors, the conduct of licensed activities by different types of financial companies was inspected for its adherence to legal provisions. Remote supervision of the CDCP was aimed at examining the functionality of the registration module and module for the clearing and settlement of securities transactions, and at assessing potential risks. Continuous monitoring of securities trading on the BSSE was focused on the detection of insider dealing and market manipulation.

No serious shortcomings or legal violations were found. The shortcomings found in the activities of particular companies were not so significant as to jeopardize overall financial stability. As regards the BSSE, there were four instances where suspicions of market manipulation aroused, but none of these suspicions were confirmed by subsequent investigation. As for the CDCP, errors made within routine operation of the modules for the registration of securities and for the clearing and settlement of securities transactions were found upon analysis not to be of such a nature that would pose a threat to the CDCP's activities. On the matter of lawsuits brought against the CDCP, risks have been established which, if the previous court decisions are upheld, could adversely affect the CDCP in the exercise of its activities. For this reason, and given the key role that the CDCP plays in the Slovak capital market, the CDCP must adopt the measures needed to prevent threats to its operation.

The Social Insurance Agency was also subjected to on-site inspection and remote supervision. The Agency did not always transfer old-age pension savings (OPS) contributions to the current account of the respective pension fund within 45 days from when these were credited to the Agency's account at the State Treasury, and nor did it always pay OPS from the basic fund of guarantee insurance to the basic fund of OPS contributions within the time limit of 60 days from the maturity date of the contributions. Likewise, the Agency in many cases failed to transfer OPS contributions to the current account of the respective pension fund within 5 days from their pairing. The Agency's failure to comply with these periods occurred in the first

[76] *At the end of the year, the FMA approved the merger of Sympatia–Pohoda, DSS, a.s. with ING DSS, a.s., and it approved the change in ownership of Prvá dôchodková sporiteľňa, DSS, a.s. after it was taken over by rival Allianz–Slovenská DSS, a.s.*

[77] *ING DDP purchased Prvá DDP Tatry–Sympatia, and their merger culminated in the establishment of a new and transformed company, ING Tatry-Sympatia DDS, a.s. as at 1 February 2006.*

half of 2005, in around 200,000 cases. It should also be noted, however, that the said shortcomings also had objective causes that the Agency could not have influenced. In the cases identified, the Agency was required to pay delay penalty.

6.4 International cooperation

Last year saw substantial convergence in the exercise of supervision at the EU level

Intensive cooperation between EU regulatory authorities was a feature of 2005, particularly in regard to preparations for implementation of the CRD.[78] The result has been a full range of methodological instructions either approved at the level of the Committee of European Banking Supervisors or currently in the final stage of negotiation. In seeking convergence within the EU framework, a key challenge has been cooperation between all the Lamfalussy Level 3 committees. This cooperation is strategic especially for an institution such as the NBS which combines the roles of regulator and supervisor.

[78] *The Capital Requirements Directive represents a recodification of the Directives 2000/12/EC and 93/6/EEC.*

Conclusion

The preceding parts of this report have brought assessments of the financial stability of different sectors (external, government, households, non-financial corporations, and the financial sector) in 2005. All the reviewed sectors are reported to have financial stability and to be making progress in strengthening it. We only partly touched on the interconnections between the financial stability of sectors and on the interconnections between risks. These connections can have a stabilizing effect, but they may also prove destabilizing should they strengthen the effect of any disturbances or shocks.

Risk assessment for future financial stability

An analysis of global financial stability produces the apparently conflicting information that, on the one hand, conditions and assumptions for financial stability improved in 2005 and no significant disturbances are predicted for the short-term, and that, on the other hand, certain imbalances have accumulated to the point where they pose a long-term threat to financial stability. Uncertainties about the short-term development at the global level mostly centre on the US financial market. These concern the pace at which the mounting imbalances are being tackled, including imbalances in the current account, budget, household sector, interest rates, and real estate prices. A risk can be seen in the oil market, even in short-term view, and it is a risk being heightened by the political developments in oil-producing areas. It was shown in 2005 that risks related to natural and industrial disasters, and to military conflicts, need to be reckoned on almost in the short-term, since their effects are not small and may even be global in scale.

Most analyses see the existing global imbalance as a potential risk to financial stability in the long-term. This is because no experience indicates that a sudden redressing of the imbalance could bring economic benefit to any of the regions concerned (the United States, Asia, Europe). On the contrary, some studies indicate that the current development, including the accumulation of imbalances in the United States, the global liquidity surplus and the faster growth in China's foreign exchange reserves, has actually benefited at least the United States and China, and that this process is far from the point at which it will begin the return to "equilibrium"[79]

We assume that rising oil prices will continue to have an adverse effect on the competitiveness of oil importers and on global economic activity. Since the oil crises in the 1970s and 1980s, advanced economies are better able to deal with such a development. While oil prices continue to increase at the current pace, however, it should be reckoned that they will within a few years necessitate technological changes, substitution and a "departure" from oil in several sectors. This could bring down prices on the oil market. It should also be noted that turbulences and crises of a lesser order may emerge sooner in less developed economies that are more sensitive to an increase in oil prices.

Although the development of the Slovak economy is evaluated positively, there are certain short-term risks. The main one is the familiar risk that comes

[79] *Spencer, M.: A Guide Through Bretton Woods II. Deutsche Bank, May 2006. These studies suggest that the programme basis of this process is the employment of 200-300 million workers in China and the extensive foreign investment that this demands. The said "imbalanced" process should therefore continue for a further 15-20 years. Foreign exchange reserves are required as collateral for foreign investments in China.*

from operating under the conditions of ERM II. The 2006 parliamentary elections represent a current risk for the setting of fiscal policy. This risk is largely related to the uncertainty concerning government policy after the elections. A possible relaxing of fiscal policy would increase the risk of the economy overheating, unwarranted expectations being raised, and financial instability in the financial sector. It would heighten the risk from rising interest rates, weakening of the exchange rate and an influx of speculation capital. But the main threat to financial stability lies in creeping uncertainty over entry into the euro area and over the expectations that today determine and stabilize the financial market to a significant extent. It is therefore important that all relevant political parties identify with the date of euro area entry (1 January 2009).

Current developments in profitability in the non-financial corporations sector are not raising any major concerns, though some risks do exist. These include mainly the faster growth in real wages and the increase in unit wage costs, which could lead to the squeezing of profits. Also meriting attention is the fact that the profitability of monopoly and dominant undertakings is rising amid a current increase in cost inflation from this segment of the economy, in particular from energy prices.

Stress tests have shown that the sharp growth in lending does not pose an immediate risk to the stability of the banking sector so long as the quality of loans does not change, but that when combined with lower quality, in other words substantial relaxing of lending conditions, it could put the stability of several banks at risk. This means that lending growth, especially household lending, should not be stimulated by the easing of lending conditions. Another source of potential instability is the real estate market and property market in general. The current situation is, in our view, contradictory. The sharp increase in prices of flats and office rentals[80] is related to positive expectations for economic growth, while its slowdown, for whatever reason, would bring turbulences to this market.

The importance of focusing on competition and concentration issues in the financial sector, and within in its individual segments, is becoming apparent. The experience in several business sectors is that competition leads to decisions that basically involve accepting a greater risk and sometimes an inappropriate, uncovered and unhedged risk. It is important that supervisory authorities pay greater attention to this fact, and that they assess this risk more closely when evaluating the lending activity of banks and the marketing activities of pension fund management companies – those segments of the financial market where there is a stronger degree of competition.

A problem specific to the situation in Slovakia is the current practice where foreign banks transact with the NBS on the domestic interbank market through their affiliated domestic banks and branches. Since, relatedly, the economy and banks are increasingly financed with short-term funds from abroad, there is a growing risk that an external stimulus will destabilize this financing, the exchange rate and interest rates, as happened at the beginning of 2005. The emergence of any such situation could require an intervention from the NBS. As for what might have a stabilizing effect on the financing of the economy, the planned issues of long-term eurobonds for the financing of government debt could help extend the duration of foreign liabilities.

Assessment of financial instability risks as regards the spread of instability and interaction of risks

The Slovak economy and its financial sector are small and very exposed to risks and shocks from the external environment. As happened in 2005, global risks could also in future have an impact on the Slovak economy and financial sector. Such risks affect the EU economy, including the economies of Germany, Austria and Italy, with which Slovakia has strong economic ties. Rising prices of oil (and gas) are gradually feeding into the financial results of certain parts of the economy and have contributed to higher inflation. Efforts to prevent the spread of secondary effects into, for example, wages have affected interest rates. The stability of interest rates and market liquidity were affected

[80] *This applies mainly to Bratislava and certain other centres of economic activity.*

by the sudden exodus of investors from the V4 region, which occurred after the turnaround in US interest rates at the beginning of 2005 and caused considerable fluctuation of the exchange rate. Their activity should also be reckoned on in the future.

Our analysis based on 2005 shows that the correlation between currencies of the V4 region strengthened in that year. The correlation between the rate of the Slovak koruna and that of the other regional currencies was not even weakened by Slovakia's entry into ERM II, though the expectations had been that it would be. The persisting uncertainty over the progress of the V4 countries towards joining the euro area could, unless it changes, have a destabilizing effect on Slovak koruna's exchange rate such as happened in 2005. We do not, however, see this development as likely, and as the date of euro area entry (1 January 2009) approaches, the currency will be more independent in its movement. Moreover, the signs are mounting that the progress of the other V4 countries towards the euro area will receive more substantial support from their governments.

Integration of the domestic financial sector into the EU financial sector is primarily a stabilizing element. It does bring, however, a higher risk of cross-border contagion by any problems in the EU financial sector. Indeed, the liberalizing effect of foreign financial companies itself represents a certain risk. These risks are exacerbated by the fact that the rules and mechanisms of supervision in such conditions are still only being formed. When evaluating financial stability in Slovakia and its outlook, it is also important to look at financial stability in the EU and to recognize the risks it faces.

Developments in 2005 also show why banks' efforts to transfer certain risks to clients should be heeded as a potential future risk to the banking sector. For example, a large share of mortgage loans are provided with a fixed interest rate for up to one year. Although this practice reduces the interest rate risk in the banking sector, it heightens the risk that certain households will find it difficult to make their loan repayments in the event of (the expected) increase in interest rates. The risk could then turn into a greater credit risk for banks. As far as we can see, that risk is at present small and fully covered by banks' capital, especially over the short term. This follows on from the small volume of loans and the fact that previous access to lending was confined mostly to solvent clients and the collateral coverage of loans was higher. The risk could grow in future if lending conditions are relaxed.

Information from stress testing shows that systemic risk (contagion risk) in the domestic banking sector is not significant at present. Because banks have relatively weak commercial ties with each other, the failure of one bank should not cause problems in other banks or have a domino effect.

Several risks stemming from interconnection in the economy and in the financial sector have yet to be adequately analysed; with our current information, it is not possible to assess the spread of possible disturbances, especially those instances where bank managements fail to react appropriately to a problem.[81] Nevertheless, a certain amount of optimism is in order when assessing the financial stability in Slovakia – all the segments of the economy that are important in terms of exposure to financial instability risks have strengthened their assumptions for financial stability and their capacity to absorb financial risks. These assumptions should be further improved by probable fast economic growth and an adequate increase in household wages and income.

[81] *One of the current agendas of the European Commission is to ensure that any financial crises at the national and Europe-wide level are met with optimal reactions and cooperation from the interested parties (regulators, state authorities and market players).*

C Annexes

1 Stress testing at the NBS

The main aim of stress testing within the NBS is, at present, to quantify how well individual banks and the banking sector as whole are able to cope with exceptional but plausible shocks. Stress testing has so far been restricted to the banking sector, which is related to the fact that the integration of financial sector supervision within the NBS dates back only to 1 January 2006. Since then, better conditions for an integrated understanding of the financial sector within financial stability analyses have gradually been created.

In addition, the NBS is steadily improving the conditions and assumptions for macro stress testing. Work has begun on the econometric analysis of financial soundness indicators, while progress has been made in the simulation of VaR and the analysis of market risk correlations has produced partial results.

Faster progress is prevented by the large structural changes taking place in the financial sector. It was only in 2000 that the banking sector underwent large-scale restructuring and a privatization process that put ownership into foreign hands. Since then, privatization and accelerated development have also been applied to the insurance sector. Nor has the voluntary pension savings sector (the 3rd pillar of the pension) been around for long, while compulsory pension savings (the 2nd pillar) were launched in Slovakia only in 2004. The real development of mortgage financing also began just in recent years. Such circumstances restrict the scope for identifying potential risks and, on the one hand, their interconnection with economic development and, on the other hand, their impact on financial soundness. The stability and length of the time series are not as yet sufficient.

The purpose of this annex is to supplement the information and facts from the stress-test exercises described in Part 4.1.6 of this report, and to explain certain methodological aspects of the stress tests in more detail.

The basic approach to stress testing at the NBS involves applying a stress scenario to individual banks. The consequences of the stress test are evaluated at a basic level by designating, where possible, the impact on capital adequacy. Such an evaluation is not possible for branches of foreign banks. As regards liquidity stress testing, a comprehensive scenario embodying the reactions of the market and bank needs to be designed in order to determine the impact on the bank's capital. That is why, at this stage, we preferred an evaluation where the basis impacts of the liquidity stress tests were confined to liquidity ratios. Stress tests of systemic risk are based on relations between banks in the current period. The stress tests are partial – we stress-test individual risk factors. The relations between individual risk factors are not expressed therein. They are static in the sense that they are based on the current positions of banks and do not express any of their possible reactions to the stress scenario that could alter this position and modify the effects of the scenario. In the stress tests applied so far, we have not considered spillover effects except in stress tests of systemic risk – based on identifying the impact that one (or more) bank's failure has on the health of other banks. An evaluation of impacts on the banking sector, an aggregation, is made based on an assessment of changes in the distribution of the selected characteristics of financial soundness (capital adequacy, liquidity ratio) both prior to and after the test.

When interpreting the results of stress scenarios it is important to recognize the existing limitations of stress testing. Like other models, stress testing represents a simplified expression of how the economy and financial sector react to a stress

situation. Although the aim is gradually to refine stress scenarios and to quantify them in a way that mirrors the market reality as far as possible, the complexity of the real situation necessitates working with certain assumptions and simplifications.

Foreign exchange risk

In stress scenarios focused on foreign exchange risk, we stress-test the exchange rates of major currencies on the basis of a change in open foreign exchange positions. The selected currencies account for almost 100% of foreign exchange assets and liabilities on the balance sheet and the off-balance sheet. The foreign exchange assets are denominated mainly in EUR (82%), USD (10%) and CZK (5%), and the liabilities in EUR (62%), USD (34%) and CZK (3%) and the off-balance sheet assets and liabilities in EUR (52%), USD (42%) and CZK (3%).

Each scenario's effect on the foreign exchange position of a bank is given as the net open position in the currency, which is multiplied by the relative fluctuation in the exchange rate for the change given in the individual scenarios. The sum of the changes in the net open positions in individual currencies represents the net change in the bank's open foreign exchange position. The overall effect of the *i*-th stress scenario (D_{sci}) is therefore given as follows:

$$D_{sci} = \sum_j NOP_j \times sc_{ij}$$

where *NOP* is the net open foreign exchange position in currency *j*, and sc_{ij} is the *i*-th stress scenario for currency *j*. Banks' capital and the capital adequacy ratio are then adjusted by this figure.

The first type of foreign exchange stress scenarios are based on the assumption that the historically "worst" fluctuation in the exchange rates of all the currencies recurs in the stipulated period, regardless of the mutual correlation between the currencies. Under this type of scenario, a further distinction is made between whether the "worst" period is common to all banks or applies on a bank-by-bank basis. The results of this scenario cannot be aggregated for the banking sector, and are rather used as a guide within the set of stress scenarios.

The second type of scenario is based on the change in the exchange rate of one currency (EUR), while the rate changes of the other currencies are based on the estimated mutual correlations between exchange rates. The worst rate changes are those changes occurring during the 10-day period which have the largest impact on the bank's open foreign exchange position. The third type of scenario uses VaR. It states the assumed loss that should not be exceeded in 99% of cases, based upon the historical performance of exchange rates.

In making an overall assessment of the stress-test results, we compare the distribution of banks

Box 8 Simulated exchange rate fluctuations taking into account correlations

For estimating correlations in hectic periods, we use the following model:

$$\ln\left(\frac{eur_t}{eur_{t-1}}\right) \sim \omega\ N\left(\mu_{eur}, \sigma_{eur}\right) + (1-\omega)\ N\left(\tilde{\mu}_{eur}, \tilde{\sigma}_{eur}\right)$$

It is assumed that the logarithms of changes in the EUR exchange rate arise with a probability of ω from the quiet period (simulated by a normal distribution) and with a probability of 1- ω from the hectic period (simulated by another normal distribution with a greater standard deviation). It is expected that the quiet period will have a probability of between 70% and 95%, while the hectic period is represented to a lesser extent and is indicated by sudden fluctuations in exchange rate values and by stepped growth in volatility. The model parameters (including ω probability of the quiet period) were estimated from historical time series data on exchange rates for the years 2002 to 2005.

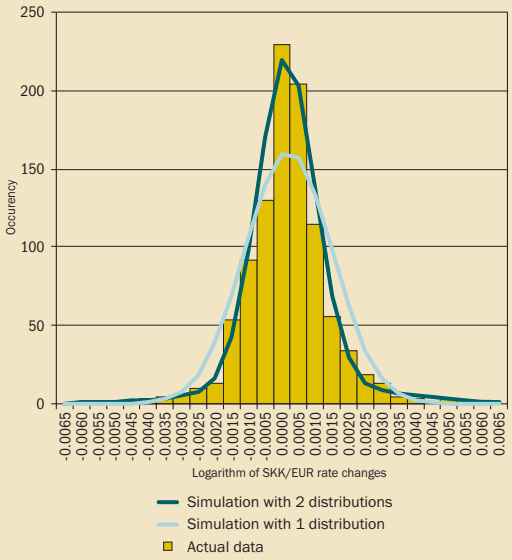
Table A **Estimated parameter values for the EUR/SKK exchange rate**

	Probability	Mean	Standard deviation
Quiet period	85%	-0.00012	0.085%
Hectic period	15%	0.00033	0.27%

Source: NBS.

As Chart A shows, the model based on differentiating the quiet and hectic periods – highlighting especially the different volatilities – better represents the historical data than does the model based on a single normal distribution. The said model manages, moreover, to capture the exception values of the historical distribution,[1] which are a frequently mentioned characteristic of economic time series.

Chart A **Comparison of a model based on a single normal distribution and a model based on a combination of two normal distributions**



Source: NBS.

It should be noted that the data distribution in the hectic and quiet periods is not based on some *a priori* definition of hectic periods (e.g. according to the size of the relative fluctuation, and so on). It is in fact the case that for each piece of data on the logarithm of exchange rate change, we know how to assign the probability that it was from the hectic period. Naturally, the greater the relative exchange rate fluctuation, the greater the probability that the data was from the hectic period – though the nature of the model means this cannot be stated unequivocally. However, by estimating this probability for all data, we calculate for a second exchange rate (e.g. USD) the qualified means and dispersions in the quiet and hectic periods, as well as the qualified correlations between these exchange rates in both the quiet and hectic periods. The calculations are based on standard relationships used in the calculation of means, dispersions and correlations. The only difference is that each item of data is weighted by the probability that it is derived from the hectic period (or from the quiet period if the values are being calculated for the quiet period). This means that greater relative exchange rate fluctuations are included in the calculation with a greater weight than are small fluctuations, which provides for a more accurate calculation of the exchange rate correlation we are interested in. The estimated parameter values are given in Table B. Assuming a linear correlation between the fluctuations of individual exchange rates, the following equation

$$\frac{\ln(usd_{t+10}/usd_t)-10\,\tilde{\mu}_{usd}}{\sqrt{10}\,\tilde{\sigma}_{usd}}=\tilde{\rho}_{usd,eur}\,\frac{\ln(eur_{t+10}/eur_t)-10\,\tilde{\mu}_{eur}}{\sqrt{10}\,\tilde{\sigma}_{eur}}+\sqrt{1-\tilde{\rho}^2}\;\varepsilon_t \qquad \varepsilon_t \sim N(0,\sqrt{10})$$

may be used to calculate the expected fluctuation in the USD/SKK exchange rate (and by analogy the other exchange rates) when the EUR/SKK exchange rate appreciates by 5% (scenario 5), or when it depreciates by 5% (scenario 6), while taking into account the correlation between the currencies on the assumption of a hectic period.

Table B **Estimated parameter values for individual currencies**

		USD	CZK	HUF	PLN	JPY	CHF	GBP
Quiet period	Mean	-0.00022	-0.00007	-0.00009	-0.00012	-0.00017	-0.00014	-0.00017
	Standard deviation	0.29%	0.15%	0.19%	0.24%	0.26%	0.12%	0.27%
	Correlation	31.4%	26.7%	21.9%	8.4%	21.9%	69.1%	39.5%
Hectic period	Mean	0.00033	0.00028	0.00007	0.00008	0.00008	0.00028	0.00024
	Standard deviation	0.40%	0.22%	0.30%	0.29%	0.35%	0.28%	0.27%
	Correlation	69.2%	66.4%	45.4%	31.5%	45.4%	93.6%	79.3%
Expected relative change upon a 5% rise in the EUR/SKK rate, assuming a hectic period for EUR		+5.3%	+2.8%	+2.5%	+1.7%	+2.9%	+4.9%	+4.0%
Expected relative change upon a 5% fall in the EUR/SKK rate, assuming a hectic period for the EUR		-5.0%	-2.6%	-2.6%	-1.7%	-3.0%	-4.8%	-3.9%

Source: NBS.
Notes: A drawback of the model is, however, that it does not reckon on autocorrelation in the time series.
Further details about the calculations may be found in the following article by Kim. J. and Finger Ch. C. – A Stress Test to Incorporate Correlation Breakdown, Journal of Risk (2000).

according to their level of capital adequacy before and after application of the stress scenario. We assess the change in position of the mean and median capital adequacy. Certain quantiles are also assessed, for example, the lower and upper quartile of the capital adequacy distribution for the banking sector in comparison with regulatory level (8%). Examples of such charts for stress test scenarios applied to 2005 are shown in Part 4.1.6.

Interest rate risk

The stress testing of interest rate risk is aimed solely at interest rates for assets and liabilities denominated in SKK and EUR, since assets and liabilities include a high share of interest-sensitive items in these currencies.[82] The interest rate curves are stress-tested, and a change in them is not reflected by a change in the interest rate margin. The draft stress scenario is based on historical changes – monthly changes in ten-year, two-year and one-month points on the yield curve since the beginning of 2003. These are adjusted to represent the potential development of interest rates and to create stress situations. The impact of the stress scenarios is determined as the difference between the net present values of interest-sensitive positions prior to and after application of the stress scenarios. This difference is factored in to the bank's capital. Specific stress scenarios represent a parallel move, a change in the short-term or long-term rates, and a change in the slope of the interest-rate curve.

Credit risk

Credit risk stress scenarios focus on two types of changes. The first involves a deterioration in the quality of the credit portfolio – with transitions of standard loans and standard special mention loans into non-performing loans (NPL). This deterioration of the credit portfolio results in a higher credit risk. The second involves fast growth in lending while the structure of loans and the overall risk in their portfolio remains unchanged. The increased risk in this change arises from the greater volume of risk-weighted assets (RWA).

$$\Delta_1 = \max_t \frac{NPL_t - NPL_{t-1}}{NPL_{t-1}}$$

In the first scenario, we analyse the effect that an increase in non-performing claims has on own funds, OF, (or on capital adequacy, CA). The maximum percentage month-on-month increase in the value of non-performing loans during the period under review is determined as follows:

$$NPL_{t+1} = NPL_t \times (\Delta_1 \times M)$$

and we assume that this increase, adjusted by multiplier M, occurs in the following period. The volume of classified claims will then be:

$$CA_{t+1} = \frac{OF_t - (NPL_{t+1} - NPL_t)}{RWA_t}$$

The impact on capital adequacy is calculated with the formula:

$$\Delta = \max_t \frac{total_t - total_{t-1}}{total_{t-1}}$$

The second scenario represents the potential consequences of a sudden sharp increase in the total volume of loans while their quality remains unchanged. An assumption of this scenario is that when loans are provided, the risk of default and therefore a loss to the bank is underestimated.

The first step is to determine the maximum percentage change in total loans for one month (Δ):

$$\max NPL_t = \max_t \frac{NPL_t}{total_t}$$

The second step is to determine the maximum ratio of non-performing loans to total loans:

$$NPL_{t+1} = (\max NPL) \times (\Delta \times M2) \times total_t$$

The volume of non-performing loans within the faster increase in the total volume of loans, PNL_{t+1}, is calculated as follows:

[82] *The interest-sensitive positions were taken from banks' quarterly statements on interest rate sensitivity.*

$$NPL_{t+1} = (\max NPL \times M1) \times (\Delta \times M2) \times total_t$$

where M2 is the stress multiplier for the increase in the total volume of loans.

By combining the two scenarios, we obtain a realistic stress scenario – a case where, on the one hand, the total volume of loans increases, and, on the other hand, the loan portfolio further deteriorates owing to the relaxation of lending criteria and the risk in the portfolio increases (multiplier M1):

$$CA_{t+1} = \frac{OF_t - (NPL_{t+1} - NPL_t)}{RWA_t + \Delta * M2 * total}$$

We will assume that the value of the increase in non-performing loans is reflected in a loss (a 100% loss in the case of default), that the bank's own funds are reduced and, furthermore, that new loans have a risk weight of 100%. The value of risk-weighted assets is thus changed, and the new capital adequacy ratio is calculated as follows:

Liquidity risk

A problem with liquidity risk testing is the ambiguity of the link between liquidity risk and capital adequacy. A loss arising from liquidity problems may be reflected in several ways (for example, rapid selling of securities, higher prices of funds). In the Slovak banking sector, it is necessary to take into account existing credit lines to other banks or a parent bank, or core deposits. So as to avoid designing a complicated hypothetical scenario, we do not evaluate the impacts of liquidity stress testing based on capital adequacy, but on three liquidity ratios (the instant liquidity ratio, the liquidity ratio for up to 7 days, and the liquidity ratio for up to 3 months). The size of the impact is evaluated not in absolute terms but relatively to the average month-on-month change in these ratios. Each ratio is calculated as a share of liquid assets and volatile funds in the respective categories:

- for the first ratio, liquid assets include vault cash, the bank's current accounts with other banks and all Treasury bills and government bonds which are not subject to a lien, including those that the bank acquired in reverse repo transactions; volatile funds include current accounts maintained by the bank and all liabilities towards clients;
- for the second and third ratios, liquid assets include the liquid assets under the first ratio as well as all claims against clients and banks with a residual maturity of up to 7 days or up to 3 months; volatile funds under these ratios are the total liabilities towards banks and clients which fall due within 7 days or within 3 months.

It should be noted that the approach towards the maturity of assets and liabilities is inconsistent. For deposits, current maturity is used and the estimate for core deposits is not considered. For government securities and Treasury bills, an assumption of absolute liquidity is made regardless of their current or estimated maturity.

Liquidity risk stress testing is conducted on the basis of three basic scenarios:

- a large decline in the value of government bonds,
- a large unexpected withdrawal of client deposits,
- a sudden outflow of short-term capital from the banking sector owing to external factors.

The first two scenarios are standard, while the third represents a risk specific to the banking sector in Slovakia (for example, a decline in short-term deposits of non-resident banks). The precise specification of the scenario accords with the real term structure of banks' funds.

Systemic risk

The term systemic risk is understood to mean the failure of one or more banks and the repercussions of this failure on other banks (contagion risk). This risk results from the way banks are interconnected through loans and deposits. If one bank fails, it exposes other banks to a credit risk. This risk arises in banks whose loans provided to other banks on the interbank market are not covered by the regulatory level of capital.

System risk stress testing is based on a matrix of relations (deposits and loans) between banks. The failure of one or several banks is stress-tested, not taking into account transactions with non-residents and including the following assumptions:

- interbank loans are unsecured (worst possibility),
- the loss upon loan default is 100% (worst possibility),
- the bank's failure comes as a surprise to the other banks (worst possibility)

In a more advanced variant of system risk stress testing, we test for a domino effect of failure. Failure spreads in cases where the primary failure of one bank causes either a (secondary) decline in the capital of another to below the stipulated limit, or the failure of another bank.

The future of stress testing at the NBS

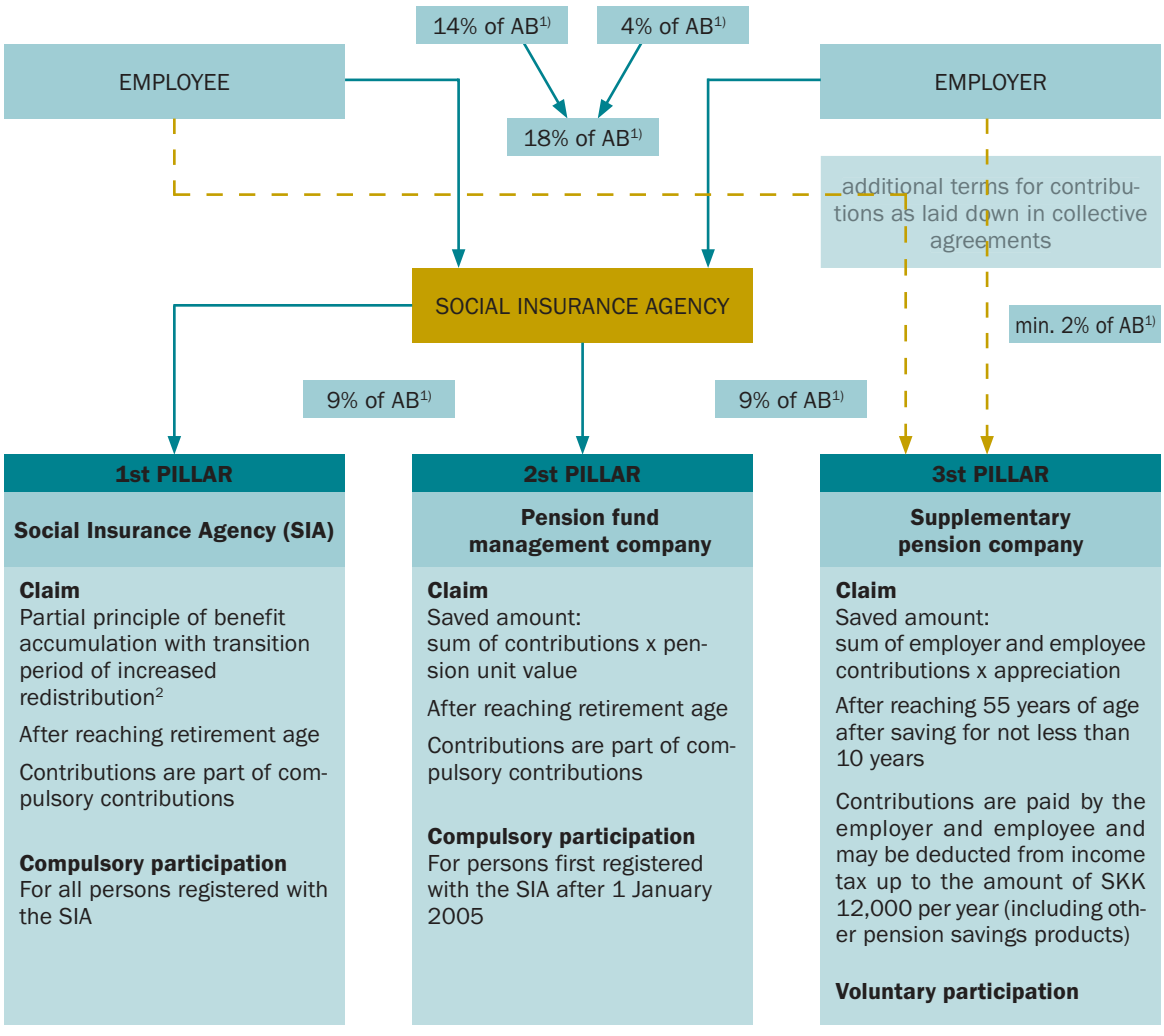
The further development of stress testing at the NBS will focus on modelling individual risk factors – credit risk, volatility of interest rates, exchange rate, real estate prices, instant liquidity changes, and contagion risk – and on using the knowledge gained from the stress testing in the design of stress scenarios. This knowledge should also support the integration of stress testing into a more comprehensive macroeconomic framework, representing the dynamic interconnections between the effects of individual market risks and credit risk, and the interconnections between economic development and financial stability.

2 Pension savings sector in Slovakia

The new pension savings system may be said to have started in 2005. The new three-pillar system comprises the reconstructed pay-as-you-go pillar, the new private pension based pillar, and a developing third commercial pillar of supplementary savings. The financial stability of the pension savings system (especially in the second pillar) is a fundamental condition of overall financial and economic stability.

The pay-as-you-go pillar operates on a mixed principle of capped benefit accumulation and a transition period to ensure partial redistribution; it should be used to provide a minimum standard

Chart of the pension savings system



1) % of AB, i.e. assessment base, though up to a maximum amount of 3 times the national average wage for the previous year.
2) Comprehensive calculation is defined by the Act on Social Insurance and relevant amendments.

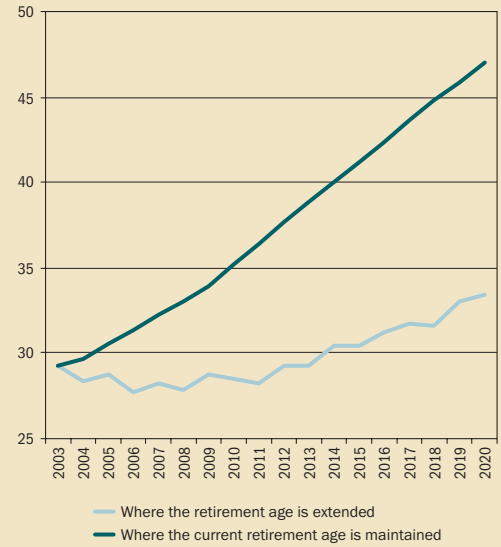
of pension insurance. The second, private pension based pillar incorporates full benefit accumulation and a benefit derived from both the amount of contributions collected and the increase in their value in the personal account maintained by the pension fund management company (PFMC) up to the retirement date. Both of these pillars are mandatory for persons newly entering the labour market after 1 January 2005, for persons economically active prior to this date or for persons who have their contributions paid by the state; entry into the second pillar has been voluntary for a transition period up to the end of June 2006. The third pillar is a commercial scheme subject to certain tax relief.

The reforms which created the legislative conditions for the new three-pillar system of pension insurance were approved at the beginning of 2004.[83] After the legislative framework and the respective institutions had been established, eight pension fund management companies received their licence in September and October 2004, and over half of all the intermediaries (15,000) did the same over the course of the fourth quarter. The official launch of the system can be put at the end of March 2005, when the PFMCs actually began to managing funds in savers' accounts. The option of participation in the third voluntary pillar was provided in 1996;[84] the conditions of participation in this pillar were modified slightly by the launch of the entire three-pillar system.[85]

The two main elements of the reform each have a different objective and use different processes for to achieve it:

A) *Objective:* to increase fairness between generations in the pension system
Part of the contributions to the Social Insurance Agency are set apart for the funded scheme; the aim is to spread over time mainly those costs that would in future arise when the Social Insurance Agency has to meet its commitment to pay old age pensions, under the current conditions, to the strong cohorts of now 20 to 40 years old. The change therefore solves the conflict between the system's financially unsustainable and generationally unfair aspects. The implicit future costs are thus spread out as explicit costs over a longer period. Meanwhile, the system of greater redistribution is being restructured into a more complex system which contains elements of both redistribution and benefit accumulation.

Chart 57 **Number of people in retirement age relative to number of people in working age (%)**



Source: NBS calculation based on data from the Demographic Research Centre and Statistical Office of the SR.

B) *Objective:* to achieve sustainable financing of the pay-as-you-go old-age pension system[86]
The gradually rising retirement age has implications for the continuation of a relatively balanced split between pensioners and cur-

[83] *In particular, Act No. 43/2004 Coll. on old-age pension savings, with consequential amendments, and the Social Insurance Act (Act No. 721/2004 Coll.). The regulatory framework is supplemented with Decrees issued by the Slovak Finance Ministry and the Ministry of Labour, Social Affairs and the Family (No. 595/2004 Coll. 737/2004 Coll., 48/2005 Coll., 75/2005 Coll., 87/2005 Coll., 158/2005 Coll.).*

[84] *Act No. 123/1996 Coll. on supplementary pension insurance of employees, with consequential amendments.*

[85] *Act No. 123/1996 Coll. was replaced by Act No. 650/2004 Coll. on supplementary pension savings, with consequential amendments.*

[86] *This objective could also be achieved by increasing contributions (whether in the present form of a percentage contribution levy, or through increasing the assessment base) or by reducing the benefit rate (lowering pensions). These two options are, however, contrary to generational fairness and are not socially acceptable in the short term.*

rent workers. The long-term unsustainability of financing the pay-as-you-go pension system within a single public pillar of old-age insurance was caused by demographic development (an ageing population resulting in a change in the ratio between contributors to the system and beneficiaries of it). Moreover, the construction of the system based primarily on the redistribution principle was the product of an historical context and it was, in terms of the expected development of the population structure, overly generous.[87]

Savings structure

The diminishing pay-as-you-go pillar still looks much as it did in 2004. However, the contributions and benefits to and from it will be reduced by the volume set aside for savers joining the second pillar.[88] Even so, the structure of funds will remain unchanged until 2014 when the first beneficiaries of the combined regime of the first and second pillar may retire.

The second, funded pillar of pension savings introduces a change in savers' ownership relations. From the beginning of 2005, people who opted for the second pillar[89] could start saving in individual pension accounts. Each pension fund management company offers savers three types of fund:

- a conservative fund – representing an investment in bonds and, in the long-term view, providing the lowest yields and carries the least risk;
- balanced funds fund – representing a combination of the conservative fund and growth fund;
- growth fund – representing an investment in shares and, on historical evidence, providing the highest yields and carrying the most risk;

which are subject to stipulated rules and restrictions on risk-spreading and commercial activities.[90]

A saver who has met the entitlement conditions for an old-age pension (early or standard) will, upon reaching retirement age, have his saved funds transferred from the account with the PFMC to an account with a stipulated life insurance company. The saver thus gains the right to be paid a life annuity or a life annuity in combination with a programmed withdrawal.[91]

The funded pillar was set up using part of the funds originally paid into the pay-as-you-go scheme. This represents 9% of the assessment base. These funds are paid by employers[92] to the Social Insurance Agency (SIA), which then remits them to the independent pension accounts managed by the PFMCs, as selected by the respective savers. The PFMCs operate under the state's strict regulations and consistent supervision. The operation of the 2nd pillar is guaranteed by the state. Supervision of the pension savings market is exercised by the NBS.

New entities in the market

The following new entities in the pension savings market commenced operation in 2005:[93]

- pension fund management companies,
- banks acting as depositories,
- intermediaries of old-age pension savings.

[87] *The lower curve denotes the count share in age ranges where the border is set by the respective average retirement age, laid down by law, in the given year. The calculation uses the mean estimate of the population of Slovakia, as processed by the Demographic Research Centre and adjusted by the population count and structure based on the census made by the Slovak Statistical Office. The disproportion between the two curves is exacerbated in future years. What the future situation looks like will depend on whether, as expected, the legal retirement age is raised again, to 65.*

[88] *I.e., by 9% of the total assessment base of the persons who have joined the second pillar.*

[89] *By the end of 2005, the Social Insurance Agency had registered 1.1 million pension savings agreements, accounting for approximately 45% of the economically active population. By June 2006, the figure stood at over 1.4 million.*

[90] *Based on Act No. 43/2004 Coll. on old-age pension savings, with consequential amendments, Chapter II, Sections 82 to 91.*

[91] *In regard to a life annuity, all the funds are used for the purchase of this product, and thereby cease to be under the ownership of the saver/beneficiary; the risk is assumed by the respective insurance company and the saved funds cannot be inherited. As for a programmed withdrawal, the life annuity purchased with the funds must exceed 60% of the subsistence minimum; the remaining funds continue to be the property of the saver/beneficiary (and can therefore be inherited), and may be withdrawn from the account in the form of a programmed withdrawal.*

[92] *Self-employed persons pay contributions independently.*

[93] *By the end of 2004, certain activities were already underway in preparation for the official launch of pension savings under the 2nd pillar (these included mainly the promotional activities by the pension companies, and informational activities by intermediaries).*

Pension fund management companies are undertakings which establish and maintain independent pension accounts for savers, and which manage the pension funds for savers for so long as they are economically active.

Eight PFMCs entered the pension savings market, and by the end of 2005 there were six.[94] Considering the high initial expenditure needed to attract savers and to establish a network of intermediaries, and given that the managed assets are tied up for the long term, the market entrants were all well-capitalized companies. As generally expected, they ended the financial year with a loss. The costs (and therefore the losses) were higher than the companies had predicted largely because of the greater than expected interest in 2nd pillar pension savings, and they therefore had to delve into their own funds for additional financing. Each PFMC is responsible for managing and investing the funds entrusted by savers into the respective funds.

The depository has a supervisory role in regard to the management and use of assets held in pension funds (see Sections 99 to104 of Act 43/2004 Coll.). The depositary is a stipulated bank which does not have capital ties with a relevant PFMC.

The intermediaries are natural persons, licensed on the basis of a professional examination, who conclude pension savings contracts on behalf of individual pension companies. Within this process, the intermediaries not only handle the contractual arrangements of the saver's entry into the system, but they also act as an additional provider of information about pension savings.

A PFMC earns income on fees for legally-regulated fund management.[95] Income earned by other entities in the market is based on individual contractual agreements concluded with a pension fund management company.

Activities in 2005

The initial year of the pension savings reform, 2005, saw pension companies rapidly acquiring clients (through intermediaries). SIA-registered contracts totalled 450,000 as early as January, and the number of new contracts decreased exponentially in subsequent months.[96] As expected, three quarters of savers were aged 40 or below. At the same time, two thirds of savers placed their money into growth funds. By the end of 2005, there were a total of 18 second-pillar funds harbouring more than SKK 9 billion (by the end of June 2006, more than SKK 17 billion), which is approximately equivalent to 1.3% (or 2.5%) of total household financial assets.[97]

In contrast to the rapid initial registration of savers, the implementation of investment plans by the pension companies began only in the second half of 2005; not even by the end of the year did the portfolios correspond to the declared investment strategies of the respective funds. A longer time is required until pension companies can achieve the standard composition of a portfolio of assets. This delay in allocation is solely related to the gradual accumulation of funds and the scope for their efficient allocation in volumes with a designated minimum value.

As regards success in acquiring clients, two of the companies had stronger positions in the market,[98] while all six had by the beginning of 2006 reached the legally-stipulated minimum number of clients, 50,000.[99]

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[94] *At the end of 2005, there were takeovers of Sympatia-Pohoda PFMC by ING PFMC, and PDS PFMC by Allianz PFMC (officially confirmed on 9 January 2006).*

[95] *Act No. 43/2004 Coll. on old-age pension savings, with consequential amendments. The structure of the maximum fees for fund management and transfers is as follows: 0.5% of the monthly contribution to the Social Insurance Agency (SIA), 1% of the monthly contribution to the fund manager (PFMC) for maintaining the independent pension account, 0.08% of the average monthly net value of the assets for the first-three years of fund management and 0.07% in subsequent years. The depository is paid out of fees remitted to the PFMCs, on the basis of a contract.*

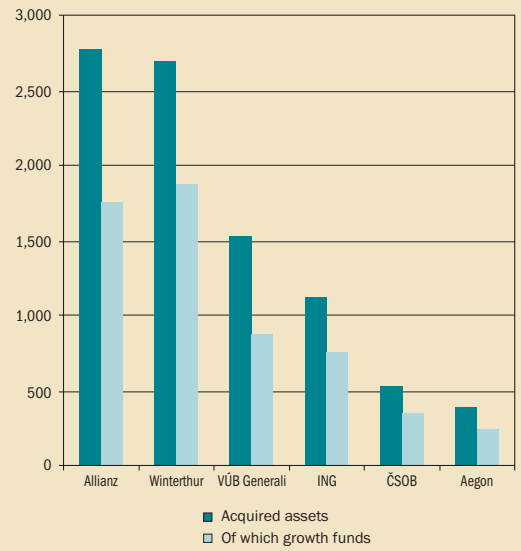
[96] *By the end of June 2005 they numbered more than 930,000, and by the end of the year, approximately 1.1 million.*

[97] *By comparison, supplementary pension companies were managing SKK 14.4 billion within the third pillar at the end of 2004, and the number of savers was almost 700,000.*

[98] *Allianz and Wintherthur; by the end of 2005, both companies had accumulated assets in excess of SKK 2.7 billion, and in this respect accounted for more than 60% of the whole market.*

[99] *This is also assumed by the market to be the lower limit for a PFMC to operate effectively.*

Chart 58 **Total volume of assets managed by pension fund companies as at 31 December 2005 and the share of assets in growth funds (SKK thousand)**



Source: The Association of Pension Fund Management Companies and the Financial Market Authority.
Note: Assets of Allianz and ING include costs of PDS and Sympatia-Pohoda (formally Allianz acquired PDS on 9 January 2006).

Risks addressed by the switch to the new system

Risk of the SIA running high deficits in regard to a combination of a net outflow of workers from the Slovak labour market and the setting of income benefits (and its rigidity as regards the social situation)

As Chart 58 shows, the ageing of the population will, despite the increased retirement age, begin to be seen by around 2013 in a sharper rise in the share of pensioners to workers. If the current indexation of pensions were to be retained, at 50% of inflation and 50% of the average wage[100] (which would see the rate of benefits under the pay-as-you-go pillar decline to only around 30% of the average wage),[101] the growth in the number of pensioners would be fully offset up to 2025 by the lower benefit rate, and the average annual increase in the volume of pension benefits under the pay-as-you-go pillar would almost match the annual real wage growth over this 20-year period.[102] This means that the lower benefit rate would, with conditions remaining unchanged in cumulative terms, make zero contribution to the sustainability of the system over this period.[103]

The risk of excessive redistribution in the system in regard to increasing income disparities

The extent of the shift from the principle of redistribution to the principle of benefit accumulation is expected to reflect changes in income distribution among the population over the long-term horizon. It may therefore be acceptable from the societal view for the pay-as-you-go pillar to expand insofar as income distribution steepens (and as the Gini coefficient decreases).

Risk in the new system

Risk that income shortfall is insufficiently covered

Greater than expected participation,[104] or a highly imbalanced income structure of savers, in the second pillar of pension savings could result in the SIA earning less than expected from the pay-as-you-go pillar. Pension reform costs should be covered by income from privatizations in past years. In the event that participation in the second pillar is higher than currently expected, these funds could be tapped earlier than 2010 (the original estimate of the Slovak Ministry of Finance). That would put public finances under greater strain and require coverage of the additional shortfall at the expense of the

[100] *Assuming average real wage growth of 3% per year, i.e., real indexation of pensions by 1.5 %.*
[101] *The benefit rate under the pay-as-you-go pillar is here understood to be the average pension benefit under pay-as-you-go as a share of the average wage (with the pension fully covered by the pay-as-you-go pillar). The benefit rate would therefore decrease each year owing to pensions growing only half as quickly as the real wage.*
[102] *Specifically: between 2005 and 2025, real growth in total payments under the pay-as-you-go pillar would on an annual basis average 90% of the average real wage growth.*
[103] *This, moreover, does not reckon on the loss of income of savers who switch to the second pillar. However, this loss is covered, at least in the medium term, by earnings from the privatization process. Nor is account taken of the change in pension indexation assumed in the reform concept – the indexation of pensions to the CPI from 2010. If introduced, this measure would bring down the benefit rate still further owing to rate of real wage growth.*
[104] *The Slovak Finance Ministry estimates the figure at 50% of the economically active population.*

gross government debt. If future governments fail to meet the government's current medium-term target to reduce the cyclically-adjusted general government deficit to below 1% of GDP by 2010, then the additional shortfall could cause the general government deficit to exceed the reference value laid down in the Stability and Growth Pact.

Risk of insufficient opportunity for long-term investment

This risk is related to the global trend of declining general government deficits (especially in Europe) and therefore a narrower range of long-term low-risk products for pension fund management companies to invest in.

Risk of insufficient competition

The introduction of a commercial and strictly regulated system in a small country such as Slovakia can increase the probability that assets will be concentrated in a few companies. The oligopolistic nature of the pension insurance market and low consumer awareness could lead to limited competition, which would not benefit the market. Furthermore, the regulated distribution of the portfolio and the restricted number of long-term products on the market points towards the creation of similar portfolios.

Risk of insufficient appreciation of savings (investment in foreign stock markets where the inflation differential is higher)

The real return on investment products is further reduced by several factors:

- higher inflation in the converging Slovak economy, additionally supported by the B/S effect and, in the short-term, probably also by the inadequate structure of labour force in several sectors and wage inflation pressure;
- convergence of interest rates in the euro area and the low relative level of long-term maturities, which account for 50% and 80% of investments in balanced funds and conservative funds, respectively, and in which participation in the final pre-pension stage is conditioned by law.

Risk of frequent changeover

This risk stems from the term mismatch between savings over the long term and legislative regulation preventing savers from changing free-of-charge between individual companies. A higher risk of changeover could adversely affect the performance of the pension companies.

International comparison

The traditional three-pillar system of pension insurance operates in some Latin American countries, Switzerland, Australia, the Baltic states, Hungary (since 1998), Poland (since 1999), and in a few other countries. Other countries either have a commercial insurance system with low state participation (in some cases, with no first pillar at all), or they allow employees to choose between a private system and public system (the so-called parallel system). The system in Slovakia most resembles that in Poland, which also operates on a commercial basis with a legally capped fund-management fee. In Hungary, by contrast, pension funds operate as non-profit organizations. Unlike the non-profit principle, the commercial principle brings in higher initial costs – related to advertising and the acquisition of clients during the preparatory stage – and therefore a longer investment return period. The profit motive in the commercial system leads, however, to a greater risk appetite. In the case of Slovakia, it is not yet possible to compare the cost and profitability of operating the system, since the initial stage of acquiring clients has still not been completed and since the pension companies' portfolios still do not match the structure set out in the investment strategy. It will in future, however, be possible to compare the Slovak system with, in particular, the Hungarian and Polish systems, though less so with the systems in Latin America, which operate in the context of a different labour market structure, different income distribution, and different economic development.

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Abbreviations

ARDAL	Debt and Liquidity Management Agency
BRIBOR	Bratislava Interbank Offered Rates
BSSE	Bratislava Stock Exchange
CDCP	Central Securities Depositary of the Slovak Republic
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CPI	Consumer Price Index
EC	European Commission
ECB	European Central Bank
EFT POS	Electronic Fund Transfer at Point of Sale
ERM	Exchange Rate Mechanism
EU	European Union
FMA	Financial Market Authority
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
LGD	Loss Given Default
NEER	Nominal Effective Exchange Rate
OECD	Organisation for Economic Co-operation and Development
PFMC	Pension Fund Management Company
REER	Real Effective Exchange Rate
ROA	Return on Assets
ROE	Return on Equity
SAX	Slovak Share Index
SDX	Slovak Bond Index
SDX Group	Group of Slovak Bond Indices
SIPS	Slovak Interbank Payment System
TARGET	Trans-European Automated Real-time Gross Settlement Express Transfer
ULC	Unit Labour Costs
VaR	Value at Risk