

# HOUSEHOLD CREDIT GROWTH IN SLOVAKIA

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*Household lending in Slovakia recorded a significant rise in 2005, both in comparison with the previous year (42.4%) and in absolute terms (SKK 49.5 billion). The ratio of household loans to GDP increased from 8.8% in 2004 to 11.6% in 2005, and the share of household loans in banking sector assets notched up similar growth, from 9.5% in 2004 to 11.3% in 2005. In comparison, however, with the same figures in other new EU Member States, the significance of household loans in Slovakia appears relatively lower.*

*Generally speaking, household credit growth in Slovakia corresponds to structural changes and to positive macroeconomic development reflected in strong demand. On the supply side, credit growth received a particular boost from the privatization of banks and overall financial liberalization. A factor in the pace of growth has been the low initial level of household indebtedness. Among the most important current factors are the strong economic development, as reflected in the financial position of households, and the period of low interest rates.*

*Despite the growth in household debt in recent years, the financial position of households is, in macroeconomic terms, sufficient for loan repayments.*

## Household behaviour

The household debt ratio in individual countries, as well as the reasons for loan indebtedness, can be to some extent explained by the different characteristics of household behaviour. The economic behaviour of households is described in the life cycle model<sup>1</sup> – which works on the principal that every household seeks to maximize its utility and adjusts its consumption accordingly. At the same time, households are exposed to certain restrictions. In the most simple form of this model, the restrictions consist in the fact that no household can consume more than the present value of its lifetime income and the net present value of its assets.

According to this model, a household maximizes its utility by balancing its consumption throughout its life cycle. In periods when the income level is low in comparison with the average lifetime income, the household borrows money to finance its current consumption. If income exceeds the average lifetime income, the household uses the surplus for loan repayment. If, therefore, we assume that slope of the income curve rises during the productive life cycle of a household, then the household at the beginning of the cycle will finance its consumption from loans. As household increases its income, so it will reduce its indebtedness, and when the debt has been repaid, it will build up the value of its assets. In the later stages of the cycle, the household will be only reducing its accumulated assets. The household's amount of debt over the life cycle depends on the household's future income and the level of interest rates (in relation to the base rate). From this basic model of household behaviour, it is possible to infer the indicators that determine or explain the loan indebtedness of households.

The different level of household debt from country to country may therefore be explained by demographic structure, expected future income, and real interest rates. A society made up predominantly of a relatively young generation, or of households whose asset holdings are low and income is expected to grow, is often associated with higher household debt. A particularly significant factor is household expectations for their future incomes. Where incomes are expected to grow, households have a greater propensity to take on debt. Low interest rates likewise raise indebtedness, as the costs of debt servicing fall and the net present value of future household income rises. On the other hand, the decline in interest rates adversely affects the return on assets, and therefore the ultimate effect of rate-cutting depends largely on which stage of the life cycle most households are in.

While the life-cycle and household-income model is based mainly on the effects of demand items on household debt, a significant role is played by the supply side, i.e. the availability of loans to households. Some studies indicate that the differences in indebtedness from country to country are largely accounted for by differences in credit access (the availability of loans to households, the loan-to-value ratio, loan-to-income ratio, etc.).

The easier access to loans in Western Europe and the United States is mainly a consequence of the deregulation and financial liberalization that took place in the 1980s and 1990s. In the United Kingdom, prior to the financial deregulation of the 1980s, almost 60% of households had no access to loans, whereas in 1987 the figure was only 30%.<sup>2</sup> The strong credit growth in certain countries can therefore be explained by the shift in households from low indebtedness before deregulation, to a higher

<sup>1</sup> Life cycle, individual thrift, and the wealth of nations. Modigliani (1986). A theory of the consumption function. Friedman (1957).

<sup>2</sup> Financial deregulation and consumption in the United Kingdom. Bayoumi (1983).

level of debt after financial liberalization had removed certain obstacles. Often household credit growth need not mean a negative trend, but can be understood as the rational response of households to deregulation, motivated by efforts to maximise their utility.

The level of household debt is also influenced by the rate of real estate ownership. Buying real estate demands a higher level of indebtedness than does renting real estate. Countries with a higher real estate ownership rate have a higher level of household debt (United Kingdom, United States, Australia).

A relatively common yet significant factor affecting household indebtedness is government involvement through tax allowances or other housing support programmes. Loan indebtedness among households was particularly high in countries with higher inflation over a certain period (affecting fixed rate loans, in particular), and where households had the option to deduct interest payments from their tax bases. A higher inflation rate has a positive effect on borrowers. Assuming that loans are repaid in regular instalments, inflation reduces the real value of the payments as well as the ratio of instalments to household income.

Real estate prices affect credit growth through the so-called financial accelerator. This means that higher real estate prices increase the value of the real estate pledged as collateral for a loan and thus households may borrow more money for consumption. The impact of this factor depends, however, on the rate of real estate ownership. But whereas an increase in real estate prices is a boon for real estate owners, it adversely affects households possessing no real estate.

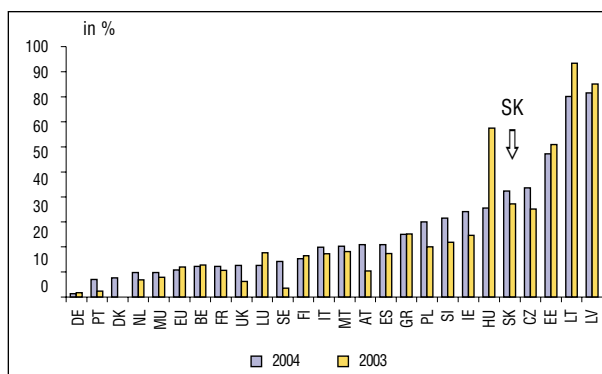
### Comparison of household credit growth within the European Union

The volume of household lending is steadily increasing in all EU Member States. This phenomenon differs in certain characteristics and in extent from country to country, depending on the local conditions. A common feature is the high rate of growth in the volume of loans provided (Chart 1).

Within the European Union, the biggest year-on-year percentage changes are recorded mostly in the new Member States (especially in the Baltic states, V4 countries, and Slovenia). The large percentage changes may be explained not only by the low initial indebtedness of households and positive macroeconomic development, but also by the low initial share of loans in banking sector assets. The correlation between the volume of loans (measured as a share of GDP) and their year-on-year percentage growth can be seen in Chart 2.

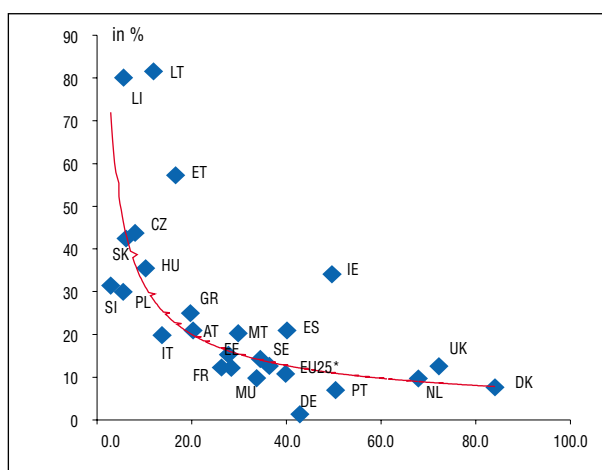
Although, in general, countries with a relatively smaller volume of loans have recorded stronger year-on-year percentage growth in housing loans, this correlation

**Chart 1 Year-on-year percentage growth in housing loans in EU countries**



Source: ECB – WGBD, NBS calculations.

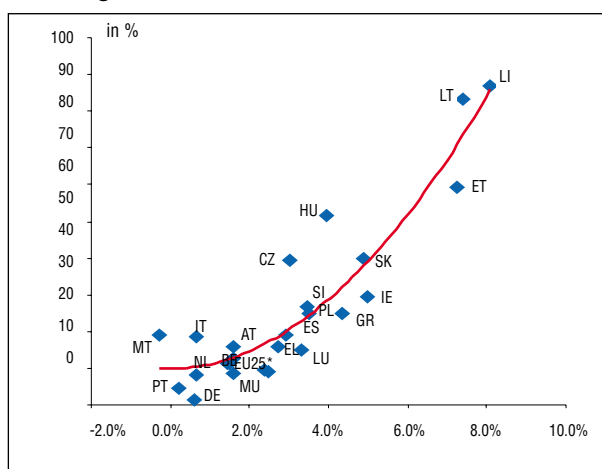
**Chart 2 Housing loans – percentage growth and ratio to GDP (2004)**



Source: ECB – WGBD, NBS calculations.

Note: The vertical axis shows the year-on-year percentage growth in housing loans; the horizontal axis shows the volume of loans relative to GDP.

**Chart 3 Percentage growth of housing loans and GDP growth**



Source: ECB – WGBD, NBS calculations.

Note: The vertical axis shows the average growth in housing loans in 2003 – 2004; the horizontal axis shows the average growth in real GDP in 2002 – 2004.



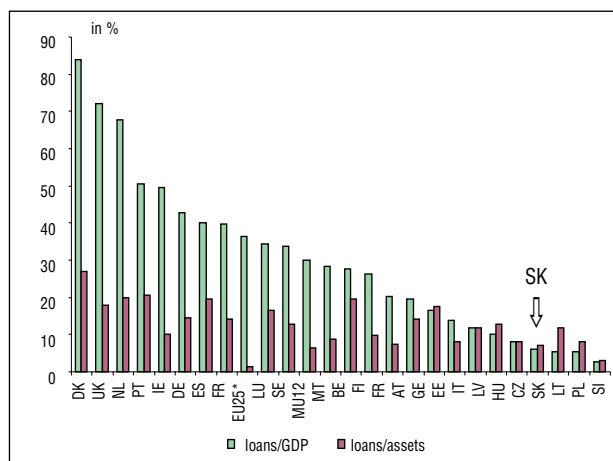
doesn't provide a satisfactory answer to the situation in Ireland and Estonia, and nor in Germany.

The percentage year-on-year growth in housing loans is also connected with the rate of GDP growth. This relationship better explains the situation in Estonia, Ireland, and Germany. On the basis of this analysis, it is not possible to state unequivocally that the rise in housing loans was caused by economic growth or, by the same token, that economic growth was dependent on credit growth. What we can say at this moment is that there is some relationship between the two variables.

A comparison of the rate of year-on-year growth in housing loans with the ratio of loans to GDP and with the rate of GDP growth (Charts 2 and 3) indicates several similarities between the new Member States.

However, a comparison of housing loans as a share of total banking sector assets does not produce similar groups among the old and new Member States. In the new Member States, the size of the banking sector is often comparable with the value of GDP, whereas in the EU-15, it exceeds the value of GDP several times.<sup>3</sup> When comparing the volume of loans and the value of GDP, we found a relatively marked difference between most new and old EU Member States, but looking at the ratio of loans to assets of the respective banking sectors, we did not discern a similar division. This share (housing loans relative to total assets) is distributed more evenly over the EU countries. In this comparison, for example, Estonia, Latvia, and Lithuania reported higher figures than France, Belgium, Ireland, Italy, Austria, and Luxembourg (Chart 4).

**Chart 4 Housing loans relative to GDP and to total banking sector assets (2004)**



Source: ECB – WGBD, NBS calculations.

<sup>3</sup> In the EU-15, banking sector assets as a share of GDP range from 138% (Greece) to 468% (Ireland), with the exception of Luxembourg (2706%). In the new Member States (except for Cyprus and Malta), this share ranges from 47% (Lithuania) to 101% (Latvia).

Generally speaking, even if Slovakia and the other new Member States have a relatively small volume of housing loans in regard to the size of their economy, some of the new Member State also have a banking sector that is more sensitive to the household sector.

### Slovakia compared with the other new Member States

Most of the new Member States (except for Malta and Cyprus) have certain common characteristics accompanying their faster rates of growth: a lower ratio of household loans to GDP in comparison with the EU-15, stronger economic growth than in the EU-15, rising real estate prices in recent years, banking sector restructuring, financial liberalization, and faster growth in banking sector assets in comparison with GDP. For that reason, lending growth in the new Member States is a special problem and deserves a separate analysis.

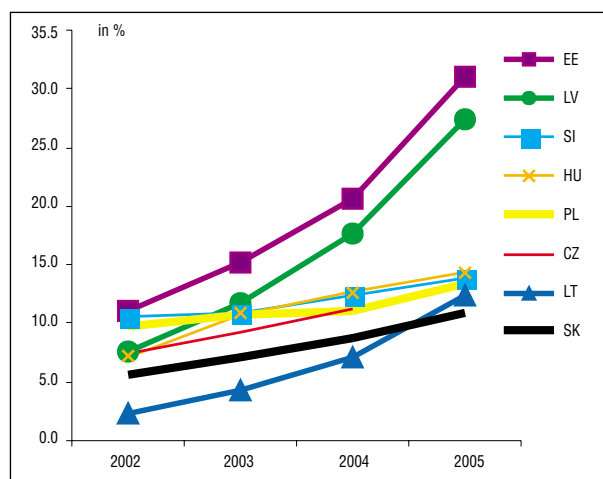
### Comparison of lending volume

Within the group of new Member States (excluding Malta and Cyprus), it is also interesting to compare the development and balance of household lending to GDP and to total bank assets.

Charts 5 and 6 show that Estonia and Latvia have the dominant position in terms of these ratios, while Slovakia is the least significant. In the case of the Baltic states, moreover, the rate of growth is even faster, and therefore the differences in relation to Slovakia have recently increased still further. In comparison with the other new Member States, the Slovak banking sector is the least sensitive to the household sector.

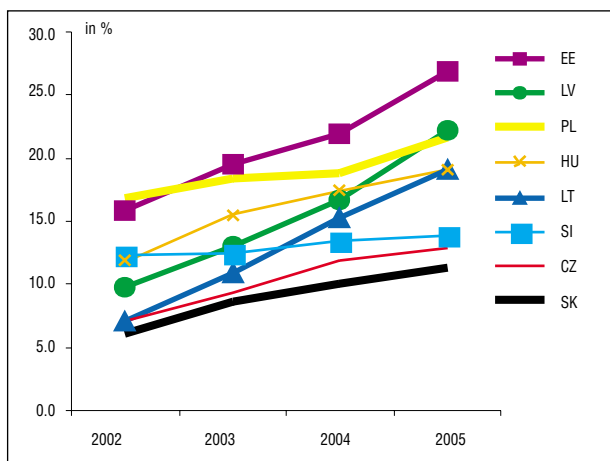
As regards Slovakia, however, the low share of household loans in total banking sector assets also relates to its having the smallest share of total loans (households and

**Chart 5 Household loans relative to total banking sector assets**



Source: Central banks of the respective countries.

**Chart 6 Household loans relative to GDP**



Source: Central banks of the respective countries.

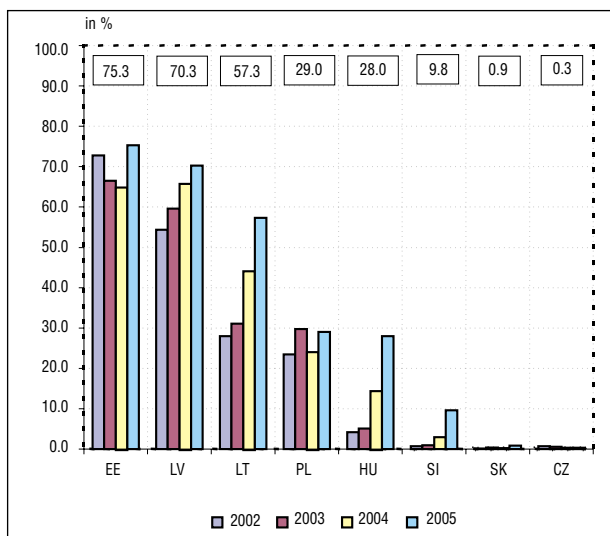
enterprises) in these assets. The Slovak banking sector's lower sensitivity to households is connected with the relatively weaker focus of Slovak banks on client lending. This does not necessarily mean that Slovak banks grant "few" client loans, but only that their assets are dominated by securities and interbank assets.

### Comparison of household lending in foreign currency

When comparing household lending in the new Member States, loans denominated in foreign currency (mostly EUR and CHF) represent a separate category. The significance of these loans in a given banking sector depends on numerous factors.

The main reason behind the growth in foreign currency loans to households is the existence of an interest rate

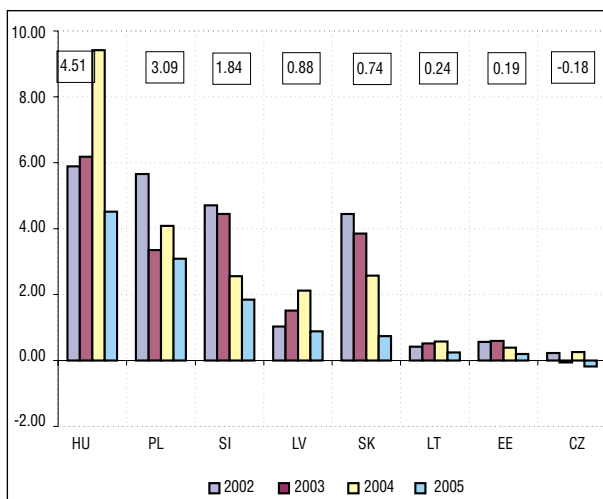
**Chart 7 Household loans in foreign currency relative to total household loans**



Source: Central banks of the respective countries.

Note: The figure above each bar represents the ratio in 2005.

**Chart 8 Interest rate differential on the three-month money market**



Source: Central banks of the respective countries.

Note: The interest rate differential for each country is the difference between the three-month interest rate in the domestic currency and the EUR. The vertical axis shows the interest rate differential in percentage points; the figure above each bar represents the interest rate differential in 2005.

differential between the domestic and foreign currencies, which in some countries has led to a significant difference between prices of the respective loans. The second significant factor is the foreign exchange regime. Depending on whether the regime is fixed or floating, there are differences in the degree of the foreign exchange risk that households take on, since the income of most households is in the domestic currency. A third factor could be the shortage of domestic funds and the related attempts of foreign capital to take advantage of the given country's potential growth. This capital is primarily denominated in foreign currency, and banks may find it more efficient to provide loans in the same currency. An additional factor may be the tendency of households to take on a certain foreign exchange risk, and to profit from the appreciation of the domestic currency against the currency in which the loan is denominated.

The Czech Republic is an example of a country with a negative interest rate differential and a floating foreign exchange regime. Both are factors in the country's banking sector having the smallest share of household loans in foreign currency among the new Member States. The example of Hungary and Poland again demonstrates the impact of the interest rate differential, which in Hungary is also supported by a more stable foreign exchange regime. Slovenia has recorded an increase in foreign currency-denominated household loans, especially in 2005, probably owing to the persistent interest rate differential and the country's entry into the ERM II. The Baltic states have reported especially high figures, mainly in Estonia and Latvia. Since 2002, however, these countries have reported a small interest rate differential, which means that the main factor in the growth of foreign currency



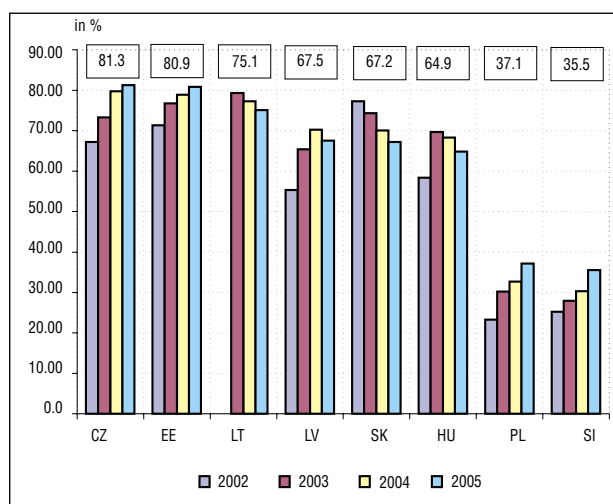
loans was probably a shortage of domestic funds in the economy, supported by a fixed foreign exchange regime.

### Comparison of household lending by structure

Differences in the proportions of housing loans to total household loans are probably connected with the situation in the respective real estate market and the participation of the state in housing development.

The comparison of household lending by structure has

**Chart 9 Housing loans relative to total household loans**



Source: Central banks of the respective countries.

Note: The figure above each bar represents the ratio in 2005.

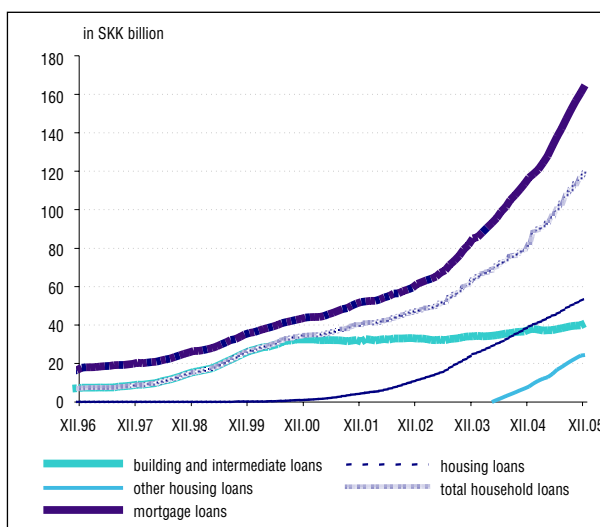
had limited meaningfulness, especially in recent years. Non-purpose loans constitute an ever rising share, and these are mostly used for housing purposes.

### Structure of credit growth in Slovakia

Monitoring the structure of credit growth is complicated by the accessibility of data, the methodology applied, and over the past year by the launch of new products. A substantial restriction is that fact that the banks' credit portfolio was in the past evaluated only in terms of standard loans. Since standard loans as a share of total household loans increased from 89% to 95% between 1996 and December 2005, the 'standard loans' category can be considered a sufficiently representative sample.

At a simplified level, several general trends can be observed over the past ten years. From the mid-1990s to the end of 2000, the volume of consumer loans decreased, largely owing to the development of building societies. Loans from building societies, especially intermediate loans, reported the strongest growth during that period. Although the first mortgage loans were granted as early as 1997, mortgage banking was actually launched only in 2000, when mortgage banking licences were granted to six banks. The growth in building society loans slowed

**Chart 10 Koruna household loans**



Source: NBS.

down in that period, and housing construction was increasingly financed through mortgage loans (supported by the government through interest rate bonuses). By November 2004, the volume of mortgage loans was already larger than the volume of loans from building societies.

The end of 2004 saw a change in the structure of housing loans. "Other housing loans" appeared in the banking sector as a product parallel to mortgage loans. In addition to these loans, non-purpose loans secured by real estate started to be provided. Chart 10 shows these loans together with consumers loans as the difference between total loans and housing loans. In 2005, the month-on-month changes in mortgage loans, other housing loans for, and consumer (or unspecific) loans were at similar levels. This development can be explained by the provision of unspecific loans secured by real estate, which are used mostly for housing purposes.<sup>4</sup>

As regards the product types, it is not possible to specify exactly how many of the loans provided to households are actually for housing purposes.

### Evaluation of household credit growth in Slovakia

In regard to the strong growth in lending, the question arises whether such growth is appropriate. According to economic theory, credit growth is disproportionate where:

- it leads to an increase in the provision of riskier loans, where the likelihood of default is high; or
- it leads to imbalanced macroeconomic development, particularly in external indicators.

Yet to measure the relationship between credit growth and the relevant indicators is a very demanding task.

In some analyses, credit growth is defined as excessi-

<sup>4</sup> Results of market research.





ve if the rate of growth is faster than the reviewed trend.<sup>5</sup> For example, a "credit boom" is defined by the International Monetary Fund as credit growth which is more than 1.75 times greater than the standard deviation in credit growth fluctuation around the trend in a given country. The application of this methodology under Slovak conditions is very difficult owing to the short time series and structural changes.

On the whole, there are very few papers on how to quantify the adequacy of rapid credit growth in the new Member States.<sup>6</sup> Most authors focus on the theoretical description of credit growth and the causes of this growth.

In this analysis, too, we concentrate on the theoretical description of the causes of credit growth due to the shortage of relevant data.

Growth in household lending is a trend found in numerous countries. The causes of this trend are several and vary from country to country, depending on the different economic development, position of the banking sector, legal system and so on. Only a few countries can ascribe credit growth to a single factor. Usually, several factors are in play, and to precisely quantify the weight of each is a very difficult task.

Slovakia, together with the other new Member States and accession countries, is among those countries that has seen sharp growth in household lending over the past few years.

In the 1990s, the overall growth in bank lending was only to a small extent reflected in household lending. Households borrowed mostly from building societies within the scope of a state-subsidized programme. In that period, the banking sector had little experience in financing the needs of households. Household lending other than through building society loans received a substantial stimulus from the privatisation and subsequent consolidation of the banking sector. The entry of foreign owners led to the recapitalization of banks, the launch of new products, improvement in risk management, and an overall change in the commercial policies of banks. The credit boom was also supported by economic and legal reforms, especially more effective law enforcement.

An explanation for the credit growth in Slovakia and other new Member States, and especially for the pace of growth, is to a large extent provided by the easing of credit restrictions and the current efforts of households to adjust consumption to their economic life cycle.

While banking sector consolidation has made loans more readily available, the actual borrowing demand from households in Slovakia is determined by the current level

of their indebtedness, as well as the expected macroeconomic development, and the financial situation of individual households.

Generally speaking, household debt in Slovakia is among the lowest in the EU. The borrowing demand can therefore be explained by the low level of indebtedness, and the so-called "catch-up" effect that appears in most countries with a low initial level of household debt.

Recent years have seen a decline in unemployment and an increase in the disposable income of households, which is the primary source of loan repayments. Household expectations for future economic development and their disposable income have improved. The growth in household lending has been most dynamic in regions with the lowest unemployment rates and the highest level of income (at the end of 2005, 62% of all household loans were provided in Bratislava region). Households are therefore increasing their consumption and financing it through loans.

As the macroeconomic situation stabilized, interest rates dropped and household spending on loan repayments decreased. With the lower loan repayment costs, bank loans have become a common means of financing short- and long-term consumption.

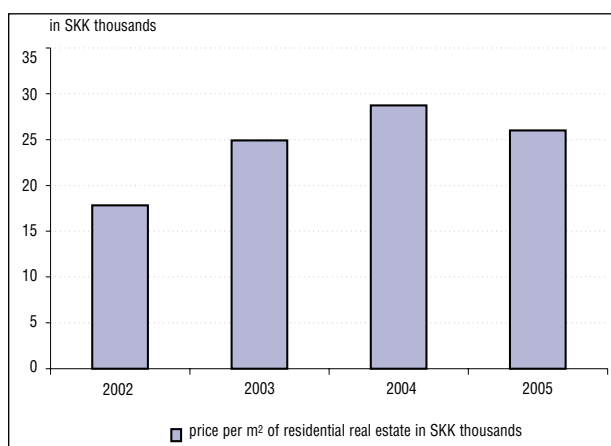
Until 2004, credit growth was promoted by government support in the form of interest bonuses. When market interest rates dropped, the government withdrew this support. Slovakia is now among those countries where the government does not provide any support to households through bank loans (except for government bonuses on deposits in building societies and the financing of real estate purchases via the State Housing Development Fund).

Through interest and non-interest income, households make a significant contribution to banks' profitability. The efforts of banks to succeed in this market are reflected in the growing competition between them. Especially because of small and medium-sized banks, credit standards and certain lending conditions have been relaxed and the lending process has accelerated. Nevertheless, the high concentration in the household lending market makes it difficult to speak about effective competition.

The impact of rising real estate prices on the volume of lending in Slovakia is unclear. Although the ratio of real estate ownership is relatively high, it is questionable whether the financial accelerator acting through the rising value of collateral is a factor that significantly contributes to the growth in bank lending. The financial accelerator would play a significant role if the loans were granted mostly to real estate owners. In that case, we could say that consumption was being financed through the rising value of real estate. We assume, however, that a large share of loans, especially housing loans, is provided to households that do not own real estate. They are largely young people borrowing money for real estate purchases. In this case, the rise in real estate prices is a result

<sup>5</sup> Mostly the Hodrick-Prescott filter is applied

<sup>6</sup> Early Birds, Late Risers, and Sleeping Beauties: Bank Credit Growth to the Private Sector in Central and Eastern Europe and the Balkans (IMF 2003), Explaining Credit Growth Dynamics in Central and Eastern Europe (ECB, 2005).


**Chart 11 Real estate prices in SKK per m<sup>2</sup>**


Source: National Association of Real Estate Agencies (Slovakia).

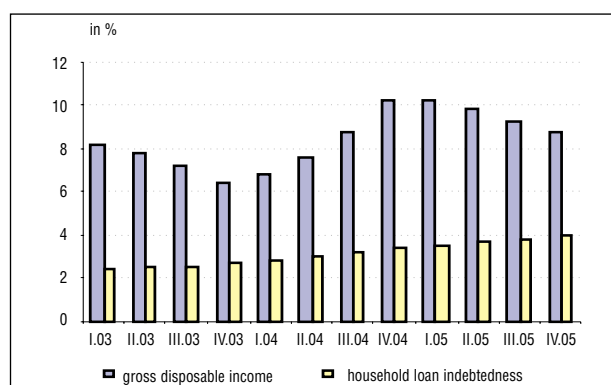
of household demand for real estate. The growth in real estate prices in Slovakia is also supported by the relatively low elasticity of supply in the real estate market (the construction of new flats is not meeting demand).

### Financial position of households

The dynamic growth in household lending raises the substantial question of the indebtedness level, particularly in regard to the capacity of households to meet their liabilities towards banks.

According to macroeconomic figures, households generated sufficient income in 2005 for the repayment of loans. In the last quarter of 2005, the ratio of loan repayments<sup>7</sup> to gross household disposable income stood at 4%. But although this trend is growing, it should be noted that this ratio remains among the lowest in the EU.<sup>8</sup>

Another aspect of the household indebtedness level is

**Chart 12 Household loan indebtedness relative to household income**


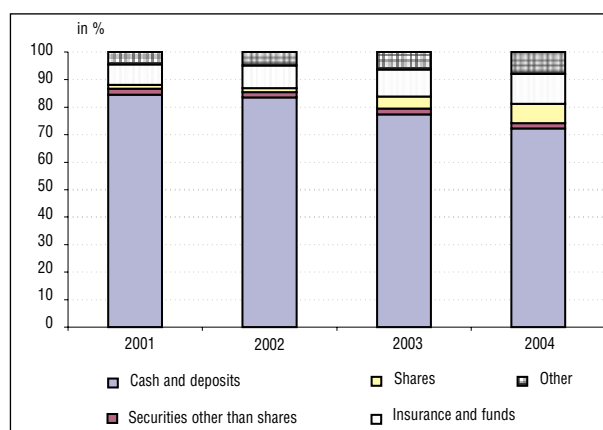
Source: Statistical Office of the SR, NBS and own calculations.

Note: The data for gross disposable income represents the percentage growth in comparison with the same period of the previous year. Gross disposable income is defined as the difference between household current income and household expenditure.

Loan indebtedness represents the ratio of repayments to gross household income; it is calculated from the volume of household loans broken down by their maturities and interest rates.

provided by microeconomic data,<sup>9</sup> as regards, for example, the distribution of indebtedness within various income groups or the ratio of their loan indebtedness. Such an analysis is highly significant since it is likely that banks will respond to the increasing competition by lending to more risky household groups.

The capacity of households to repay loans is affected not just by their primary funds in the form of income, but also by the amount and structure of financial assets. In the event of rising indebtedness or loss of income, these are used for the loan repayments. Financial assets have a favourable structure, which means they predominantly consist of liquid assets. The trend in recent years, however, points to a change in the structure of financial assets, where households hold a greater volume of less liquid but higher-earning assets. There is a rising share of investments in shares, investment funds and insurance. As households hold more assets whose value is tied to market developments, so they become more sensitive to the performance of the financial markets.

**Chart 13 Structure of household financial assets**


Source: Statistical Office of the SR.

### Impact of credit growth on the banking sector

In providing loans to households, the banking sector has changed in a number of ways. The four main changes are described in this part: first, there is the change in the term structure of assets and liabilities; second, the increased sensitivity of banks to the household sector; third, an increase in the dominant position of the leading banks; and fourth, the decrease in capital adequacy.

<sup>7</sup> Loan repayments are calculated from the term structure of loans and their interest rates.

<sup>8</sup> In 2002, the Netherlands reported this ratio at 11%, Germany at 7% and the United Kingdom at 7%. Source: Macroeconomic implications of rising household debt, BIS (2004).

<sup>9</sup> The NBS plans to use microeconomic data for the analysis of household indebtedness in the report on the first half of 2006.

## Term structure of assets and liabilities

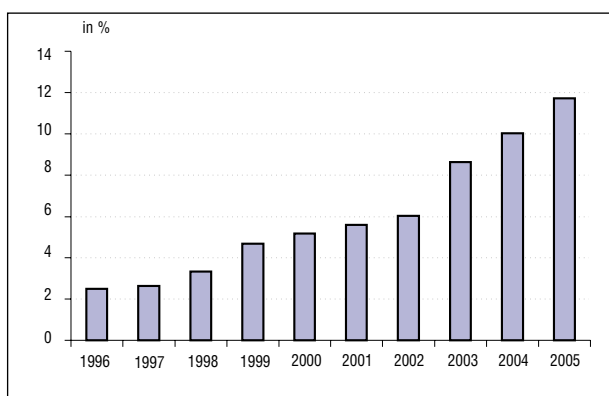
For banks, the growth in household lending has meant providing long-term loans, since these are mostly for housing purposes. From the beginning of 2003 to December 2005, the ratio of loans with a residual maturity of over 5 years to total client loans increased from 14% to 25%, and that of loans with a residual maturity of over 2 years rose from 38% to 46%.

Despite rapid growth in the volume of short-term inter-bank assets, the ratio of assets with a residual maturity of over 5 years to total assets increased from 5% in January to 16% in December 2005, owing to the increase in long-term loans. The banking sector consequently saw an increase in the proportion of investment in less liquid assets. In conjunction with the decline in term and savings deposits and the growth in demand deposits,<sup>10</sup> the term mismatch between assets and liabilities widened. The larger mismatch is also due to the fact that banks are not required to issue mortgage bonds for non-purpose loans secured by real estate.

## Exposure of banks to the household sector

A substantial change related to the growth in household loans is their share in total banking sector assets. Household loans have become one of the most rapidly growing items of bank assets. From 1996 to 2005, their share of total banking sector assets rose from 2.5% to 11.7%. In recent years, household lending has grown at a faster pace than corporate lending. From the beginning of 2004 to the end of 2005, the ratio of securities to total assets in the banking sector decreased from 28% to 23%, while household loans relative to total assets increased from 8% to 11%.

**Chart 14 Household loans relative to banking sector assets**



Source: NBS.

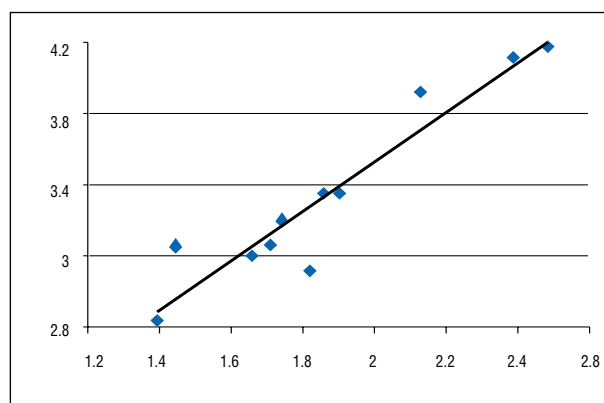
<sup>10</sup> The changes in liabilities were not a result of credit growth, but mainly a consequence of declining interest rates.

The banking sector's exposure to households has therefore increased substantially, as has its sensitivity to possible credit events in this sector. But despite its rapid growth, this ratio remains among the lowest among the new EU Member States (Chart 5) and in the European Union as a whole (Chart 4).

## Concentration

The provision of household loans has affected the concentration of lending volume and the generation of profits. The share of large banks in the sector's total profit is relatively larger than is the share of their assets. The high profitability of these banks is partly the result of their dominant position in retail banking, which is getting stronger. This dominance is connected with the size of the branch network, which has a positive correlation with the year-on-year change in the volume of household lending (Chart 15).

**Chart 15 Correlation between growth in household lending volume and branch network size**



Source: NBS.

Note: The horizontal axis shows the number of branches in logarithmic values; the vertical axis shows year-on-year changes in household lending (in SKK m) in logarithmic values.

The chart does not include banks whose share of retail lending is low in relation to total retail loans in the banking sector.

## Capital adequacy

As a result of growth in household lending, the volume of risk-weighted assets has increased (as has their share of total assets). This relates to a decrease in the share of government securities with a zero risk-weight. The growth in the volume and share of risk-weighted assets is, clearly, not only connected with the growth in household lending. It is true to say, however, that as Slovakia converges with the EU in terms of the ratio of household lending to assets and to GDP, the difference in capital adequacy is also diminishing.