



# Monetary aggregates development in the first half of 2009

Ing. Ján Beka  
Národná banka Slovenska

*Analysis of monetary aggregates development is important from the perspective of monetary policy. The European Central Bank holds the opinion of the long-term neutrality of money, which means that, in the long-term horizon, changes in the stock of money in the economy should be reflected in the level of prices. The objective of this article is to briefly describe the basic trends in the development of the main components of the M3 monetary aggregate and its counterparts in the first half of 2009 in Slovakia in a manner similar to the analysis by the ECB for the whole euro area.*

1 The change in the resident approach was reflected in net foreign assets, which subsequently influenced the transfer within the M3 monetary aggregate and its counterparts. The decrease in net foreign assets resulted in changes in the category of debt securities issued with maturity of up to two years within M3 and also in the category of debt securities issued with maturity over two years within the counterparts of M3. This decrease in net foreign assets could also be accompanied by the growth of deposits, either within the individual M3 items or its counterparts (long-term deposits). On the part of the counterparts of M3, the change in the resident approach was most significantly reflected in credits, because among them credits from the euro area residents were also included (mostly the decrease in foreign assets was reflected in the increase of credits).

2 Overnight deposits comprise mainly current accounts and one day deposits.

## MAIN CHANGES AFTER ENTRY INTO THE EURO AREA

As Slovakia became a member of the euro area from 1 January 2009, changes also occurred in statistical banking reporting and the related calculations of some indicators (including the monetary aggregate M3). In order to fulfil its needs, (especially the construction of consistent time-lines for analysis purposes) the ECB performs an aggregation of the data compiled and sent by the individual national central banks for the area of banking statistics. In order to perform the data aggregation correctly, the data for individual countries must be reported net of the relations among the individual Member States. This is achieved by applying a "resident" approach, by which residents refer to all the countries in the euro area. This change has been reflected across all the items of the monetary aggregates; however, the biggest changes have occurred with securities and net foreign assets<sup>1</sup>. The currency change has also affected currency in circulation. For these reasons, there are not longer consistent time-lines for monetary aggregates at its disposal (only from 2006). The individual national central banks only report the contributions of the country to the indicators for the whole euro area (e.g. contribution of consolidated balance, contribution of monetary aggregates, credits, etc.).

## DEVELOPMENT OF MONETARY AGGREGATES IN THE FIRST HALF OF 2009

In the first half of 2009, the falling trend of the monetary aggregate M3 development from the previous period continued, reflecting the gradually slowing economic activity. The contribution of the monetary aggregate M3 to the monetary aggregate M3 of the euro area slowed in June to 8.5%. When abstracting from the fluctuation the currency in circulation at the currency change

in January this year, and applying the same methodology for dynamics calculation as in the former years, the M3 growth would achieve a negative value in June (-1.8%). There were several factors having an impact on the development of deposits in the first half of 2009. The most important factor was the economic development. The decrease in the key interest rates, the decrease in revenues, the relatively low growth of wages and dividends paid are among the main determinants influencing the development of deposits.

The monetary aggregate M1, comprising the currency in circulation and the most liquid deposits<sup>2</sup>, recorded a slightly growing tendency in the first half of the year. This development was mainly affected by the currency conversion. Up to the end of 2008, the decrease in currency in circulation exceeded the growth of deposits on current accounts. In order to perform a simple conversion, households and non-financial corporations were getting rid of the currency in circula-

Chart 1 Year-on-year growth of most liquid M3 components (in %)



Source: NBS.



**Chart 2 Year-on-year increase of less liquid components of M3 (in %)**



Source: NBS.

tion to the banks. A converse development was recorded after 1 January 2009, when the currency in circulation increased more significantly. This influenced the development of the M1 aggregate in the first half of the year. Its year-on-year dynamics gradually stabilised at a level of about 18%. Deposits included in the category M2-M1<sup>3</sup> decreased more significantly over the first half of the year, which was largely caused by the decreased rate of return for these products in comparison with the end of 2008. At that time, banks were attracting clients by term deposits with relatively high interest rates. The difference between the interest rates of the shortest deposits and deposits with agreed maturity of up to two years was achieving quite high values. This effect diminished in the first half and interest on term deposits also decreased significantly. The year-on-year dynamics of M2 slowed down over the whole monitored period and in June 2009 achieved 5.4%.

Within the tradable instrument M3-M2, both money market funds as well as debt securities issued with maturity of up to two years decreased in the first half of the year. At the same time, the year-on-year dynamics of M3-M2 fell into negative figures. Except for a few months, the decreasing tendency of the year-on-year dynamics has continued from mid-2007. The main reason for the decreased investment into money market funds in the prior period (up to the third quarter of 2008) was the move to more profitable mutual funds (not included in the M3 monetary aggregate). In the fourth quarter of 2008, the perception of risk on the market began to grow and the attractiveness of term deposits improved. In the first half of 2009, the money market funds cumulatively achieved a net outflow of €80 million.

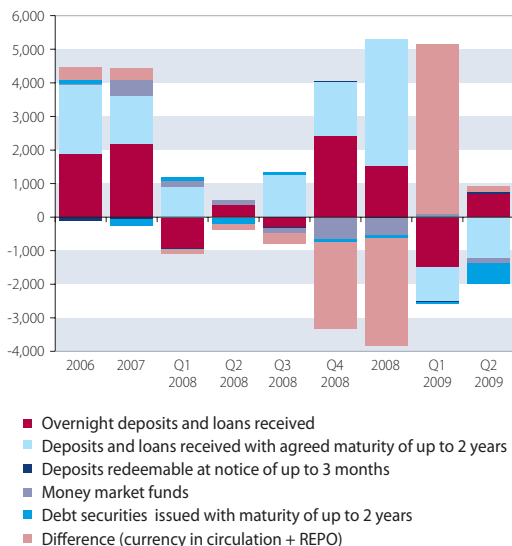
Charts 3 and 4 document the most important factors from the perspective of transfer of deposits within M3 from the perspective of their volume development. The currency change in January 2009 caused overnight deposits and deposits with the agreed maturity of up to two years to be compensated by the currency in circulation in the fourth quarter of 2008 and by the reverse effect in the first quarter of 2009.

Another factor is represented by the client interest rates or the difference between interest paid on the most liquid deposits and deposits with agreed maturity. These changes in interest rates are used in a wider scope, mainly by non-financial corporations. In the first half of the year, the difference between the interest on the shortest deposits and the deposits with an agreed maturity of up to two years reduced to 0.6 percentage points.

### DEPOSITS FROM NON-FINANCIAL CORPORATIONS

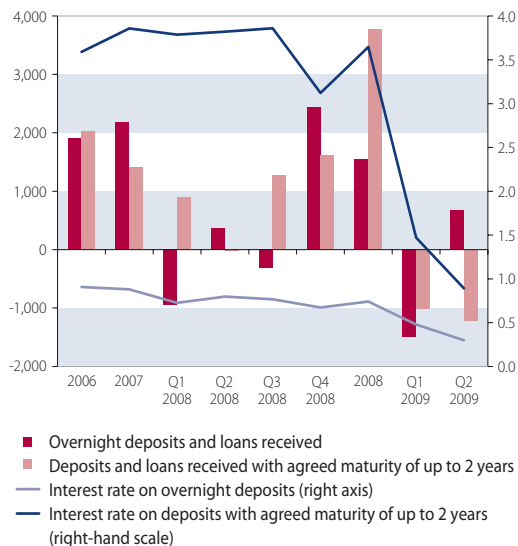
Deposits from non-financial corporations recorded a significant decrease in the first half of 2009.

**Chart 3 Transactions of individual types of deposits in the stated year and quarter (€ millions)**



Source: NBS.

**Chart 4 Transactions of deposits in individual months and development of their interest rates (€ millions; %)**



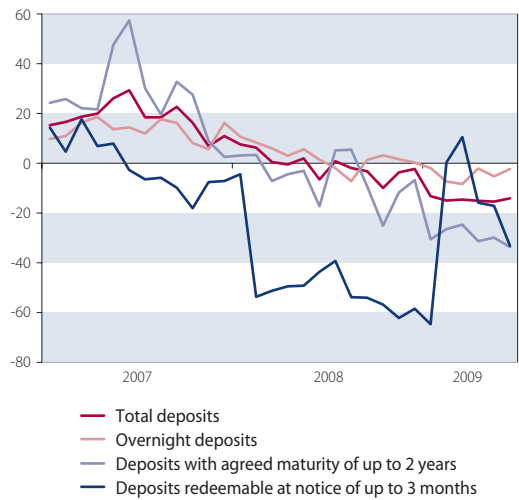
Source: NBS.

<sup>3</sup> The category M2-M1 includes deposits with agreed maturity of up to two years and deposits redeemable at notice of up to three months.



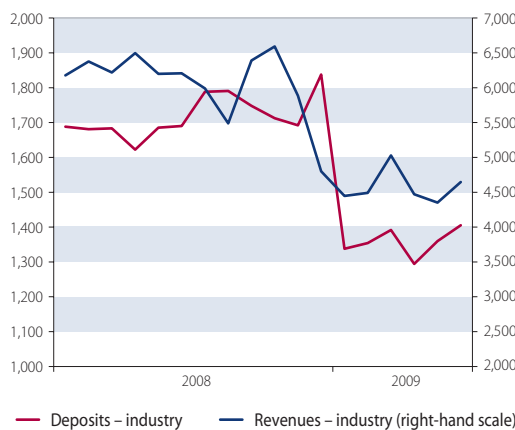
In comparison with December 2008, their volume fell by €2.4 billion which was caused by the seasonal nature of the high volume in December. However, the volume of deposits also decreased significantly in the same period in the prior year. It was reflected in the year-on-year dynamics of deposits which achieved a negative value of -13.9% in June. It can be stated, however, that the trend of the gradual slowdown in the dynamics of deposits from the second half of 2007 stopped in 2009 at values close to -15%. Within deposits from non-financial corporations, in the first half of 2009, in absolute numbers those deposits with an agreed maturity (€1.28 billion) fell most of all, followed by overnight deposits (€1.14 billion). The year-on-year dynamics fell most significantly for deposits with an agreed maturity. The volume of deposits from non-financial corporations was also affected in the second quarter by recurrent factors from every year, namely dividends payments and income tax levies.

**Chart 5 Year-on-year increase in deposits from non-financial corporations included in M3 (in %)**



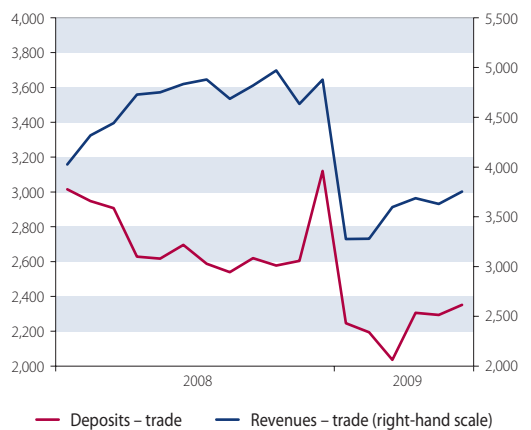
Source: NBS.

**Chart 6 Development of deposits and revenues in industry in current prices (€ millions)**



Source: NBS.

**Chart 7 Development of deposits and revenues in retail and wholesale trade in current prices (€ millions)**



Source: NBS.

<sup>4</sup> Deposits from non-financial corporations redeemable at notice are part of the monetary aggregate M3, so they are not excluded from the result due to excessive volatile development.

The share of deposits redeemable at notice of non-financial corporations in total deposits from non-financial corporations is negligible. As may be seen from Chart 5, their development is rather volatile. Even a small change in the volume of these deposits results in significant changes in the growth dynamics.<sup>4</sup>

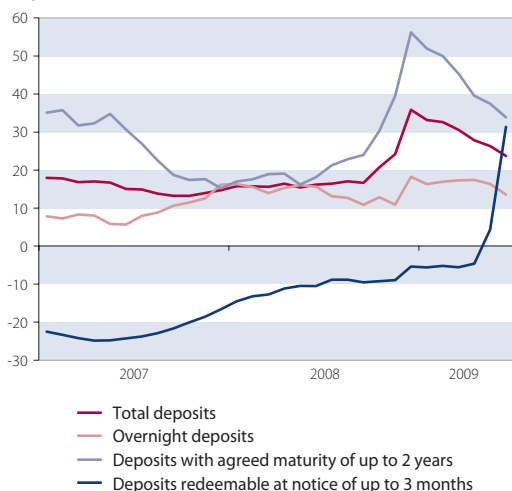
The development of deposits from non-financial corporations depends on their economic position. The revenues of non-financial corporations represent the financial expression of their performance (goods and services). In a simplified view, they could represent money coming into the bank accounts of non-financial corporations. Charts 6 and 7 document the dependence of deposits and revenues in two decisive branches (industry and retail and wholesale trade). The more significant fall in both indicators in the first half of 2009 is caused not solely by the seasonal nature (significant decrease in January 2009). Even in the year-on-year comparison, the volume of rev-

enues and deposits from non-financial corporations in nominal figures is at lower levels. Chart 6 documents the deteriorating payment discipline of companies in this branch. It shows the extending of the maturity periods of invoices, when the revenues were already recorded in the bookkeeping, but they were only paid subsequently (i.e. a corresponding increase in deposits on current accounts).

Another factor that could more significantly influence the development of deposits from non-financial corporations is the more complicated access to credit for entrepreneurs. The lack of external resources or their relatively high price force companies to fall back on using their cash flow i.e. also deposits in larger scope for their operations. In investment projects, greater demand has been made on financial involvement which has been presumably also reflected in the development of deposits.

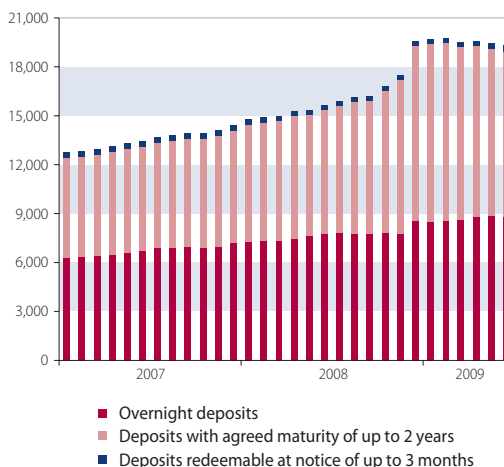


**Chart 8** Year-on-year increase in households' deposits included in M3 (in %)



Source: NBS.

**Chart 9** Development of households' deposits (€ millions)



Source: NBS.

**DEVELOPMENT OF DEPOSITS FROM HOUSEHOLDS**

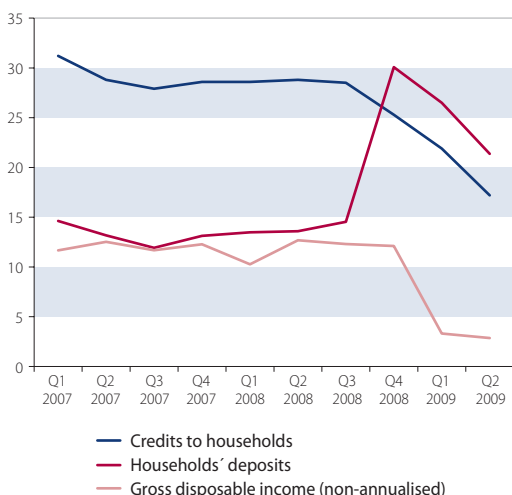
In the second half of 2008 and subsequently also in the first half of 2009, households' deposits were influenced by euro introduction. While, in the former year, the volume of households' deposits increased significantly to the detriment of the currency in circulation (because with households the transaction motive of money holdings prevails), in 2009 the development was the adverse. The volume of currency in circulation increased to the detriment of deposits. In the first half of 2009, households' deposits fell in absolute numbers by €190 million. Within the households deposits, it was mostly those deposits with an agreed maturity which decreased (by €630 million), which was presumably a reflection of the termination of shorter term deposits from the end of 2008.

A different development was recorded with overnight deposits (current accounts), the volume of which increased slightly over the period under review. This reflected a slight increase in the disposable income of households. The volume of deposits redeemable at notice (passbooks) also increased slightly. As a result of euro introduction (high increase in the volume of deposits in the last quarter of 2008) the year-on-year dynamics in deposits by households was achieving quite high values up to June 2009 (over 20%), but with a slightly decreasing trend from January. This development should be maintained up to the fourth quarter. One of the factors that could have an impact on the development of households' deposits was presumably the introduction of the "scrapping" subsidy. Households were purchasing cars not only from loan resources, but also from their savings in the form of deposits. Another reason mitigating the decrease in deposits in the first half could also be the transfer of funds from mutual funds in the first quarter to the deposit products of banks. In the first three months, investors withdrew over €230 million. Equally, this factor influenced the development of deposits in the second half of 2008, when funds with a total value of over €1,165 million were withdrawn from the mutual funds.

<sup>5</sup> As referred to above, by the end of 2008, deposits from households were influenced by the introduction of euro, so it is quite a complicated process to analyse the development over a longer period of time. However, the decreasing trend in the first half documents a more significant slowing of growth in deposits here also. <sup>6</sup> Other financial intermediaries include leasing companies, companies providing hire purchase, factoring companies, mutual funds except for money market funds and securities dealers. All these companies are engaged in financial intermediation by incurring liabilities. Their business is based on external financing.

The development of deposits and loans over the first half of the year reflected the growth in the gross disposable income of households. It slowed significantly in the first half of the year when compared to the previous years, which was subsequently reflected in the slowing dynamics of growth in deposits and credits.<sup>5</sup>

**Chart 10** Development of deposits, credits and disposable income of households (year-on-year dynamics in %)



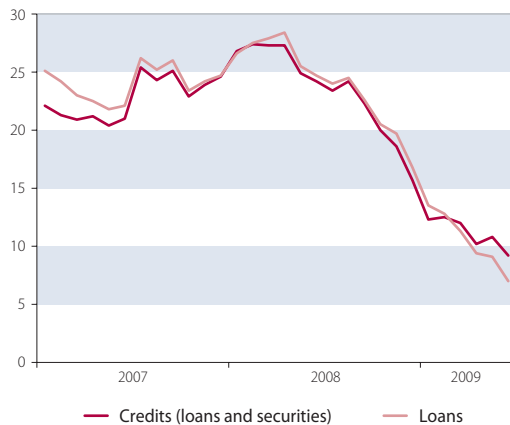
Source: NBS.

**DEVELOPMENT OF MONETARY AGGREGATE M3 COUNTERPARTS IN THE FIRST HALF OF 2009**

Within the counterparts of the monetary aggregate M3, it is necessary to analyse, from the perspective of the transmission mechanism of the



**Chart 11 Development of dynamics of credits of MFI to the private sector (in %)**



Source: NBS.

monetary policy in particular, the development of credits to the private sector. Credits include loans and also securities.

In the first half of 2009, the volume of credits to the private sector including securities increased by €1.0 billion, while in the same period of 2008 the increase was more than €2.5 billion. The development in the growth structure of credits in the first half of 2009 on the same period of 2008 was also different. The major part of the increase in credits in 2009 was created by securities, while in the first half of 2008 the entire increase was created by loans. Loans to the private sector increased in June 2009 by €0.2 billion in comparison with December 2008. Within the sectors, the outstanding amount of loans to households increased (by €0.68 billion) on the one hand; however, on the other hand, the outstanding amount of loans to non-financial corporations decreased (by €0.16 billion) and to other financial intermediaries (by €0.31 billion). The relatively low absolute growth in credits to the private sector was reflected in the

falling dynamics over the whole of the monitored period. By the end of June, it achieved a value of 9.2%, or 7% when securities are abstracted.

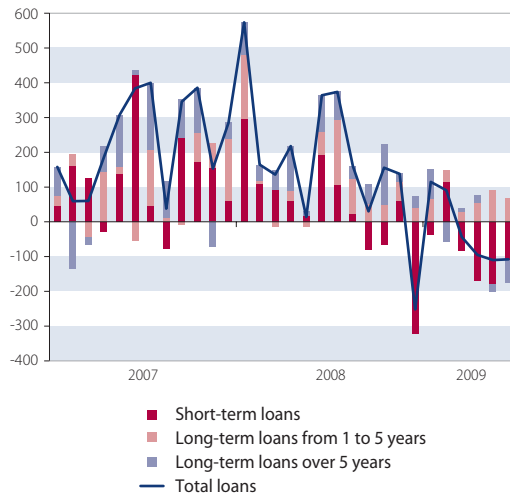
**LOANS TO OTHER FINANCIAL INTERMEDIARIES**

The lower economic activity in comparison with former years was reflected initially in loans to other financial intermediaries. The decrease in loans to other financial intermediaries had already started in the second quarter of 2008. From that time, the outstanding amount fell by almost a third, while in the first half of 2009 the development accelerated further.<sup>6</sup> Because the majority of such companies are owned by financial institutions, their financial needs are also solved by financing on the inter-bank market. However, after the euro introduction, the sector recorded a significantly lower activity owing to of the outflow of liquidity surplus and a higher perception of risk on the part of the counterparties. The significant fall in the economy was reflected in these companies by the slowdown in financial intermediation, mostly in leasing companies.

**LOANS TO NON-FINANCIAL CORPORATIONS**

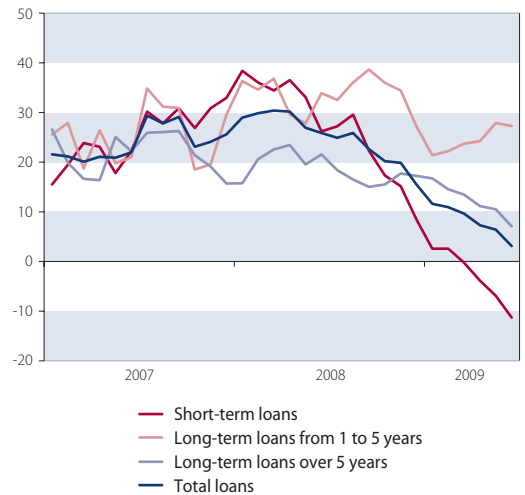
The decrease in economic activity in the first half of the year was also reflected in credit to non-financial corporations. On the one hand, there are the worries of banks about further development being reflected in the lack of willingness to provide credit to businesses; on the other hand companies also do not show such a strong demand for credit as in the period of rapid economic growth. This is also attested by the results of a Bank lending survey in the first two quarters of 2009. The banks began to tighten credit standards in the last quarter of 2008, which also continued in 2009, when the credit standards were further made more tightened in every quarter. This was reflected in the increase in interest margins and also in the higher requirements placed by non-

**Chart 12 Month-on-month changes in loans to non-financial corporations (€ millions)**



Source: NBS.

**Chart 13 Growth of loans to non-financial corporations (in %)**



Source: NBS.



financial corporations on their own resources. According to the survey, from the perspective of the banks the companies did not need so many credit resources, because there are not as many external resources required as in the period of economic growth, which is caused by the reduction in both investment and consumer demand. This resulted in a more significant decrease in economic activity in the first half of the year.

In the first half, the outstanding amount of loans to non-financial corporations decreased by €164 million. Looking at the Chart 12, it was mostly the short-term loans that decreased. Banks reduced the agreed credit lines in the form of current account overdrafts, used mostly in business relations to overcome the maturity period of invoices. The provision of loans for investment projects, for which long-term credit lasting over five years was used, almost ceased. In the last three months, the month-on-month decrease has achieved the values of about €100 million. Decreasing the outstanding amount of loans to non-financial corporations caused that the year-on-year dynamics of the growth of loans to non-financial corporations continued to slow in the first half of the year and by the end of June it attained 3.1%.

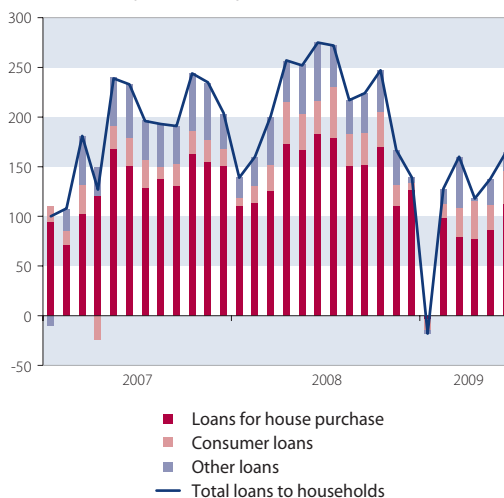
When looking at the development of credit to most significant branches, it is clear that the decrease in loans was recorded mainly in industry and retail and wholesale trade. These branches were affected by the crisis to a great extent. In the first half of the year, industrial production fell into negative numbers and retail and wholesale trade revenues fell more significantly. On the other hand, however, loans to the branches engaged in real estate activities increased slightly. This may be explained, however, by the fulfilment of credit contracts made in the former period at the completion of building projects.

### LOANS TO HOUSEHOLDS

In the first half of 2009, loans to households recorded an increase of €0.68 billion which was much less than in the same period of 2008, when the volume of loans to households increased by €1.3 billion.

The main determinant was represented by loans for house purchase with the volume increasing by €0.45 billion. However, this volume was only a half when compared with the first half of 2008. Consumer and other loans also contributed to the increase in the total outstanding amount of loans in the first six months of 2009. These volumes of loans even recorded a higher increase in comparison with the same period one year ago. Month-on-month transactions in the first half of 2009 showed a slightly increasing tendency. In June, loans to households increased on a month-on-month basis by almost €0.17 billion. In comparison with 2008, the month-on-month changes are at lower levels. This resulted to the slow-down in the dynamics of loans growth, which still achieves quite high values when compared to other countries.

Chart 14 Month-on-month changes of loans to households (€ millions)



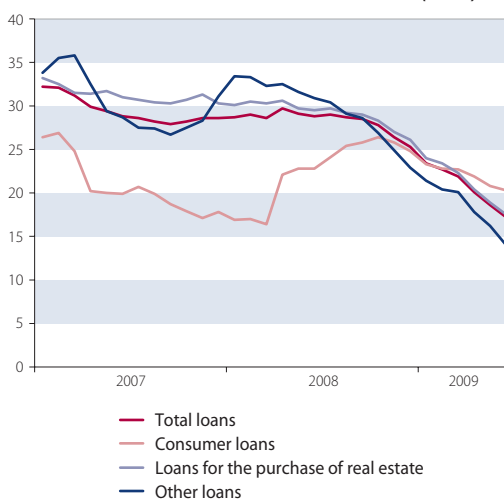
Source: NBS.

Similar to the non-financial corporations, loans standards for households were tightened, which probably affected the increase in loans. This took the form of increasing interest margins (much higher than with the non-financial corporations) and increased requirements on own resources. The lower increase in loans when compared to 2008 also resulted from the lower prices of real estate. The scrapping subsidy introduction had a positive effect with households taking out loans for new car purchases.

### IS IT POSSIBLE TO SEE THE ECONOMIC CRISIS IN THE DEVELOPMENT OF MONETARY AGGREGATES?

As described in the sections about deposits and loans, the slow-down in economic activity was also reflected in the development of monetary aggregates. In the first half of the year, this development was mostly seen in the non-financial corporations sector.

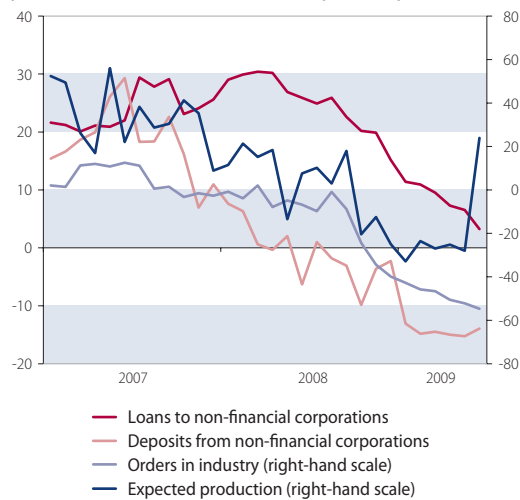
Chart 15 Growth of loans to households (in %)



Source: NBS.



**Chart 16** Year-on-year growth of loans and deposits, industrial orders and expected production



Source: NBS.

This is also documented by Chart 16. The data from conjunctural research (a more significant decrease of orders in industry and the tendency to decrease expected production) indicates the impact of the economic crisis. In line with this, the

growth of deposits and short-term loans fell to negative values. The growth of expected production in June resulted from a more optimistic mood in Europe and in Slovakia, which most probably reflects a cease in the decrease or a small sign of the production growth in some branches connected to government stimuli (e.g. the scrapping scheme in Europe).

The volume of deposits could start to grow after the renewal of demand for Slovak products abroad and a revival in domestic consumption.

### CONCLUSION

From the perspective of the development of monetary aggregates and their counterparts, the impact of the economic crisis on businesses and households can be seen as a decrease in the growth dynamics of loans and deposits. Indicators of monetary development, such as deposits and loans, always lag slightly behind the economic development indicators. Due to that, we may presume that, in the upcoming period with the ongoing economic crisis (stagnation of economy reduction or its further deepening), this development will also be more significantly reflected in deposits and loans.