



NATIONAL BANK OF SLOVAKIA

**FORMING OF THE MONEY SUPPLY IN SLOVAKIA IN 1993-1997**  
(Part II)

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# Forming of the Money Supply in Slovakia in 1993-1997 (Part II)

## Microeconomic factors in the M2 analysis

In the first part of this study we have analyzed several macroeconomic factors and aspects related to developments in the money demand and money supply which, in the period under review, combined to form the M2 money aggregate used to define the total money supply in the Slovak economy. At that point, we concluded that a waning share of M1 (the fast-liquidity component) in the aggregate supply M2 basically indicated a stabilizing monetary trend corresponding with prompt suppression of inflationary pressures. We have also focused on developments in the velocity of money circulation, an indicator whose recently marked acceleration points to the beginning of a tendency towards falling demand for money.

To be able to estimate inflation expectations with these contrasting conclusions at hand (an improving structure of the M2 and a falling money demand), we need to go deeper into the term and sectoral structures of the M2 money aggregate, which result of the behavior of the economic microsphere - households and businesses. They both have their own criteria for deciding how to spend their money balances: whether to put money in time deposits of various redemption periods, or use it for more liquid (transaction) or less liquid (mostly savings) forms of money.

These decision-making patterns, driven by the particular short- and long-term intentions in consumption (or, more generally, expenditures), are influenced and, at times, largely modified by the client interest-rate policies pursued by commercial banks. Such policies are primarily determined by the banks' asset (loans) and liability (deposits) management, depending on profitability criteria and the prudent banking regulations enforced by banking supervisors in the money market -- within the confines of monetary policy goals sought by the central bank.

In Slovakia, the importance of these microeconomic factors in the development of money supply was so evident, it was almost like a textbook example and is presented as such in the analysis below.

## Developments in deposit interest rates

Already in the first part of this paper we have noted how the interest-rate spread has made foreign currency deposits relatively unattractive compared to time deposits in crowns, which was no doubt the reason why the share of foreign currency deposits in M2 leveled out at the relative low of around 10 percent. Interest yields on crown time deposits are also a great deal higher than the interest rates offered in demand deposits (Fig. 1) -- and, despite a distinct drop in the level of inflation in the period analyzed, real interest yields on this type of deposits have stayed fairly high (*tables and charts - see BIATEC Journal*).

The interest gains needed to attract savers remain a factor with growing importance in time deposits and have a major impact on their maturity structure. The shifts in interests paid on time deposits in their three main categories (Fig. 2) basically document how commercial banks were responding to the situation in Slovakia's money market and the monetary measures of the NBS in individual phases of the period reviewed in an attempt to meet their lending targets and their business objectives.

For analysts it is interesting to look back at the period beginning in early 1995, when a full scrapping of lending regulation (credit limits) brought about a "laissez-faire" situation in the money market, calling for more flexible use of interest rate policies in the management of commercial banks' assets and liabilities, i.e. a larger differentiation in the interest rates attached to products with varying maturities. In adapting to the new environment in 1995, banks have gradually reduced their interest rates in all three deposit categories and seen them stabilize in 1996. The only exception was short-term deposit rates, which started to grow again in the second half of 1996 and grow more than 4.5 percent points over 1997 (up from 8.8% in December 1996 to 13.39% in December 1997).<sup>1</sup>

However, the sharp upsurge in short-term deposit rates varied considerably within the category. While the average interest rate on total short-term time deposits rose by 3.84 points in the year (from 9.55% in January to 13.39% in December), the average yield on deposits for up to one year (the longest maturity within the short-term category) gained a mere 1.5 points (from 9.01% in January to 10.51% in December), as opposed to interest rates on other short-term deposits (1-month, 3-month, 6-month and 9-month) which jumped by 5-6.5 points<sup>2</sup>.

The increase in deposit rates in 1997, marked especially by surging interest yields on very short-term time deposits, came in the wake of the turbulence in Slovakia's money market that was accompanied by substantial growth in interbank lending rates.

In brief, it may be said that the tendency to growing interest rates on the money market in the Slovak Republic in 1997 was caused primarily by high demand of the public sector for financial resources. Additional influence with a pro-growth effect on the price of money was the attack against the exchange rate of the Slovak currency by foreign investors in May, which can be considered a component, or a reflection of instability of international financial markets after the events in South-East Asia and the Czech Republic, as well as a consequence of an unfavourable development of indicators of external economic balance of the Slovak Republic itself.

The deficit on the current account of the balance of payments, which has significantly exceeded the standard safe level of 5 per cent of the GDP since 1996, persisting fiscal deficit, worsening foreign indebtedness, and rising devaluation expectations have created a complex of signals about deterioration in the stability of the Slovak currency, which have created a suitable environment for speculations in the exchange rate. The sharp rise of interest rates in this connection may be considered the price for maintaining the regime of a fixed exchange rate. Extreme figures, exceeding 100 per cent lasted only briefly, but interest rates remained highly volatile throughout the year, which led to a temporary halt to quotations of the official BRIBOR bank rates. However, maintaining high interest rates has its systemic, or long-term causes, which have their origin in the large number of high-risk loans in the portfolio of commercial banks. This of course is linked to the overall situation in the corporate sector and the unsatisfactory functioning of market cleaning mechanisms.

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<sup>1</sup> A sharp decrease in interest rates on long-term (5 years and more) deposits is observable on the trend character of interest rates on time deposits. Since 1995, interest rates have covered neither the inflation depreciation of long-term deposits. However, there is to be noted that prevailing amounts of the long-term deposits in Slovakia are concentrated in building savings deposits of households. The attractiveness of these deposits does not relate to the interest yield, but to other advantages discussed in the third part of the article.

<sup>2</sup> Except 6-month deposits, where the increase in average interest rate has had fast lower dynamics, leveling around 2.2 points. The development of average interest rate on 7-days deposits was characterised by marked month-on-month volatility, as, in principle, its level followed the situation on the interbank market. The highest average interest rate on these deposits was recorded in May (21.23 per cent), while the sharpest month-on-month change occurred from 10.44 per cent in February to 18.23 per cent in March.

High interest rates offered by commercial banks on ultra short-term deposits have led to a significant restructuring of M2 money supply in favour of short-term deposits. This greatly changed the formal properties of the quasi-money aggregate: to the detriment of the savings function, the transaction function was increased by accumulated deposits. Furthermore, the quantitative characteristics of the M2 money supply, or, a certain level of its safety over time, are thereby distorted, which has an adverse affect on the lending activities of banks.

A new -- speculative -- form of financial behaviour of economic entities has spread on a massive scale, caused by the high interest rate differential between individual groups of financial assets. This has a potential impact on the conditions for achieving the monetary policy targets of the NBS in the area of M2 growth, owing to the "self-generating" mechanism of the creation of additional financial resources (interest yield), that broaden the overall M2 money supply.

### **Analysis of time deposits with regard to duration structure**

At the next level of disaggregation, we get better insight into the structure of time deposits. This is a highly heterogeneous aggregate accumulating deposits with significantly differing characteristics: from ultra short-term deposits at 7 days of notice, or several weeks or months, which basically fulfil a transaction function without problems, to long-term deposits at 5 or more years, which are true savings deposits.

The upper half of Table 1<sup>3</sup> shows how the structure of this aggregate was formed according to three main groups of duration. With a permanently declining share of medium-term deposits in total time deposits (a total fall of 20 percentage points to 29.8 per cent at the end of 1997), share of long-term deposits continued to grow, and from 1995, the volume of short-term deposits as well. The motivations for holding long-term deposits, where building savings predominate, are not linked to the level of interest rates (see later). Shifts between medium- and short-term deposits can be easily explained by the specific interest rate level: before 1996, the difference in interest rates between these two groups of deposits was presumably not attractive enough to overcome the advantage of higher liquidity of short-term deposits; in 1997 interest yield from short-term deposits reached its highest level ever.

The lower half of the table confirms the significance of the change that took place in the structure of money supply, thanks to the marked growth in the share of crown time deposits (or a decline of the volume of demand deposits) in M2.

However, the last row of the table shows we have to radically change our opinion as to the importance of this change for the quality of M2 money supply in the sense of an increase of the share of more stable or longer-term deposits. These data are perhaps surprising, because we found that over the whole monitored period the share of factual short-term components (demand and short-term deposits) in total crown deposits changed only insignificantly and remained permanently at a level exceeding 70 per cent. The marked growth of the share of term deposits in total crown deposits (or M2) did not necessarily mean an improvement in the

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<sup>3</sup> Calculations were made from data of bank statistics of the total volume of deposits. Proportional figures therefore do not perfectly correspond with values that we got from the Monetary Survey, which only monitors deposits of households and businesses (and insurance companies). The difference in the trend of the ratio of demand (time) deposits to the total crown deposits was 1-, or 2-percentage points more (less) than according to data from the Monetary Survey. This means that entities outside the private sector (i.e. above all the government sector) preferred larger holdings of money in the form of highly liquid demand deposits than businesses or households. This is determined by the character of their business.

quality of the term structure of deposits (or M2) as the primary resources for lending activities of banks.

The data in the lower half of Table 1, in combination with data from Table 2, also afford an insight into motivation of financial behaviour of economic entities. The advantage of the transaction motive of holding money on demand and short term deposits being more or less equal, led to a significant change in the form of the aggregate structure.

The starting position on January 1, 1993 was roughly represented by a ratio of 70:30 in favour of demand deposits, while at the end of 1997 the share of both components to total short-term deposits levelled out at 50:50. The greatest shift -- by almost 9 points -- took place during 1997. This means that a full half of the volume of factual short-term deposits -- in particular short-term time deposits -- showed that it was possible to achieve an alternative to the transaction way of holding money. We may call it speculative, since it is motivated by an attractive interest yield.

Table 3 shows the development of the share of selected groups of short-term deposits in the total volume of deposits in 1997, when the growth of interest rates and subsequent restructuring of deposits developed most dynamically.<sup>4</sup>

It is also evident in this connection that high interest rates have attracted deposits with a ultra short maturity -- the combined share of up to 7-day and up to 1-month deposits in short term time deposits increased year-on-year from 18 per cent to 41 per cent, while the share of deposits up to one year (where the interest rate grew the least) fell below half the volume of these deposits and their absolute volume decreased as well. A quite marked decrease (by SKK 5.6 billion) in deposits up to one year, took place in the first quarter of 1998, which caused a dramatic decline in their share (by almost 10 points) in the total volume of short-term time deposits.<sup>5</sup>

For illustration, development of the amounts of time deposits with the shortest duration together and relevant interest rates for the period 1996-1998, Q1, is presented (Fig. 3,4,5,6 and 7). The most convincing link between growing interest rates and the volume of deposits is shown by deposits of up to one month; the looser link in the case of deposits up to 7 days stems from the character of these deposits. For deposits up to 3 months and up to 6 months, there is a clear tendency towards a shift in favour of shorter-term deposits, explainable by lower interest yield and longer duration. However, following a stronger growth in interest rates in these two groups of deposits since the beginning of 1998, the volume has increased sharply, along with continued growth of the volume of up to 7 day and up to one month deposits.

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<sup>4</sup> The table does not include deposits up to 6 and up to 9 months, the development of which did not change significantly. Nine-month deposits seem to be the least attractive deposits for depositors, which have constantly made up the lowest share in the total volume of term deposits (with a declining tendency below 2 per cent), despite the very significant growth of average interest rate on these deposits (to 16.78 per cent in December 1997).

<sup>5</sup> In contrast, during the same period (1Q 1998) the volume of deposits up to 6 months significantly increased, and their share in short-term deposits in March 1998, reached 9 per cent (compared with 4.8 per cent in December 1997).

## **Evaluation of effects of changes in financial behaviour of economic entities on the structure of M2**

A diagram of the motivation of economic entities for holding money can be derived from the acquired information (Table 4). We have divided the total M2 money supply into three groups -- into money that satisfied: (a) transaction needs (currency in circulation + demand deposits), (b) speculative demand (short-term deposits up to 7 day to up to 9 month) and (c) savings, or conscious motive (short-term deposits up to one year + medium and long-term deposits + foreign currency deposits).

During 1997, the share of speculative demand in M2 increased by 7 points and during the first three months of 1998 alone, by a further 6 points to 22.4 per cent.

This growth was reflected in a declining share in both transaction money (currency in circulation + demand deposits), and the savings component of deposits.

High interest yields from ultra short-term deposits are at first sight the result of loan management of commercial banks under the current Slovak money market conditions. However, they also reflect the excessive risk situation in the banking sector with regard to the persisting high proportion of non- performing claims, and are hence also a consequence of the situation in the business sphere.

For the NBS, this is a difficult situation, because the development of market interest rates is of a predominantly autonomous nature. The high volume of interest paid -- which is either used for consumption or remains in accounts to generate higher return from compound interest -- may become an additional source of growth of the money supply. Therefore, it is also a factor acting against the monetary policy goals aimed at regulating its growth. The sharp rise in the monitored group of short- term deposits (7 day to up to 9 month) in the first quarter of 1998, on which the average interest yield was roughly 17 per cent, is quite disturbing -- though, from the point of view of making profits for economic entities it is a purely rational phenomenon.<sup>6</sup>

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<sup>6</sup> In a full-year projection and a (rather unrealistic) assumption of an unchanged volume of these deposits, the generated volume may be in a range comparable to the increase in loans in the private sector.