



MONEY SUPPLY IN SLOVAKIA IN THE BACKGROUND OF MONETARY DEVELOPMENTS IN 1997 – 2000

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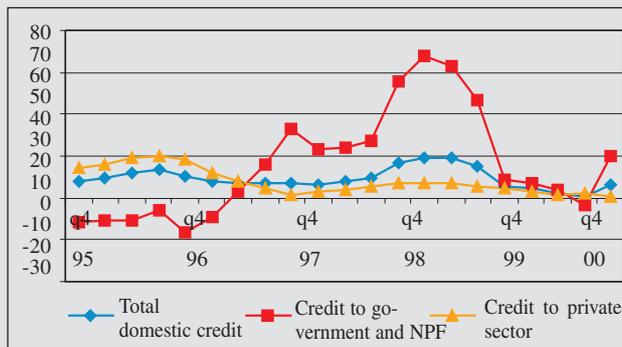
We have already devoted several papers to the formation of money supply in Slovakia.¹ In the process, our analysis has gradually come to focus on the structure of the M2 money aggregate (i.e. the defining parameter of money supply in Slovakia), studying how its maturity and sector structure evolved over the period from 1993 to mid-1999. This paper takes end-2000 data to update these earlier findings. We will be focusing on a period since 1997, at the beginning of which, short-term deposit rates soared to extremes and started off a process of some major changes, in particular in the maturity structure of quasi-money (QM) (including Slovak koruna-denominated time deposits and foreign exchange deposits) and subsequently, in the structure of the M2 aggregate.

The change we found was a major gain in QM's share in M2 which would typically suggest a desired trend of M2's firmer component, consisting of safer primary sources for commercial bank lending. However, as our earlier analyses indicate, this time the scenario came off quite differently for Slovakia's money supply in the period reviewed. A rapidly growing QM, increasing its share in M2 in the process, was fuelled mainly by an unprecedented boom in very short-time deposits, while longer-time deposits were losing ground. Although the expanding share of QM in Slovakia's M2 since 1997 did bring increased stability to commercial banking, it was not in terms of availability of suitable lending resources, but only in the limited way of securing additional short-term liquidity at a time it was chronically scarce in the interbank market, with banks' lending activities actually turning down. One significant factor which accompanied this seemingly stable monetary environment were some heavy costs caused by high rates at which banks had to raise necessary funds. From the systemic point of view, this particular situation, marked with inverted interest rate policy pursued by commercial banks, was obviously just a temporary stage which had nothing to do with a real road to stability. As a matter of fact, it was just a forced result of banks' accommodating behavior to a given monetary environment.

Structural evolution data on Slovakia's money supply in the 1997 – 2000 period can give us valuable insights into financial behaviour of non-financial private sector entities – i.e. businesses and households, and help us review the interactive

¹ See: Komínková, Z.: Formation of Money Supply in Slovakia in 1993 – 1997 (part I, II, III), Biatic 1998, No. 8/10; Komínková, Z.: Main Tendencies in Money Supply Formation in Slovakia in 1998 and the First Half of 1999, Biatic 1999, No. 11.

Figure 1. Domestic lending (year-on-year changes in %)

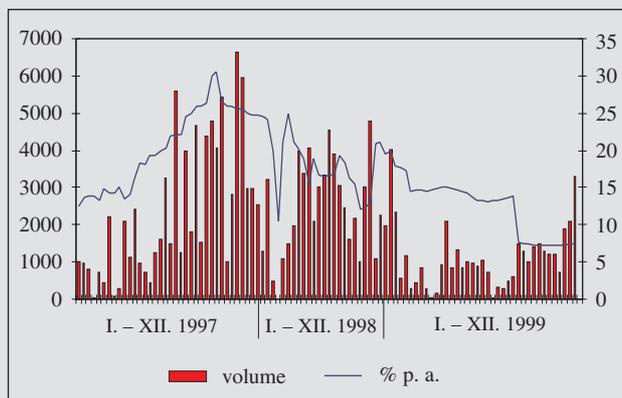


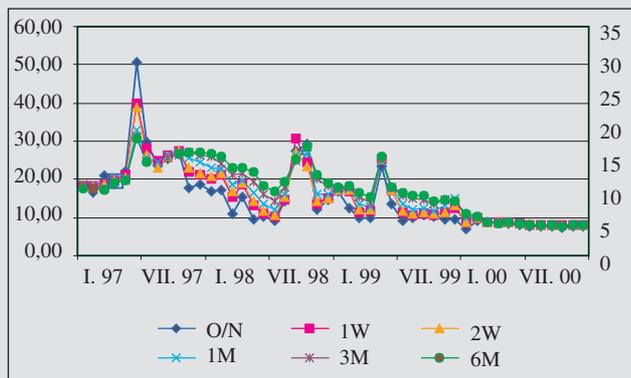
effects of fiscal and monetary policies on activities of financial sector entities – i.e. commercial banks. From the researcher's perspective, this is an exceptionally good period to study because it spans, in virtually perfect time symmetry, two different stages of fiscal macroeconomic policy: extensive government spending with a strong crowding-out effect on private sector lending followed, from the last quarter of 1998, by a policy seeking to trim government expenditures and consolidate public finance. Figure 1 gives us a picture of these developments.

Monetary Environment in Slovakia and NBS' Monetary Policy in 1997 – 2000

A sharp growth in the government sector's financing needs in 1997 was reflected in high interest rates offered on government securities which commercial banks were only too glad to accept, cutting back funds for the private sector in the process. (T-bill issue volumes and average interest rate history are shown in Figure 2). To counter the expansive fiscal po-

Figure 2. T-bill issues and average interest rate



**Figure 3. Average BRIBOR rates history**

policy, the NBS responded by curbing or even suspending bank refinancing. With such a monetary policy management, combined with restricted access for banks to foreign exchange fixing, the NBS sought to hold up and protect its fixed exchange rate of the Slovak koruna which, apart from national economic pressures, started to face attacks by outside speculators. Although this strategy proved effective to fight off a foreign raid on the currency in 1997, using the same policy in 1998 amid ever stronger adverse domestic factors (in particular growing current account shortfall and widespread devaluation fears) was no longer supportable and, eventually, also prompted by the fallout of Russia's financial crisis, the NBS decided to abandon the fixed exchange rate and floated the koruna on October 1.

In connection with the shifts in money supply structure discussed in this analysis, it is important to note that the cut-backs in NBS' refinancing operations have sent the interbank money market running dry, with BRIBOR not only shooting up, but also becoming strongly volatile (see Figure 3) due to the unpredictable nature of these operations. That is why banks increasingly turned to their interest rate policies to meet their short-term liquidity needs by overpricing very short-term primary deposits.

The arrival of a new Slovak government after parliamentary elections in the fall of 1998 spelled a radical change in the philosophy of macroeconomic policy. In order to stabilise government finance, the government sector scaled down its spending, which resulted in a considerable decline in Treasuries' yields. However, as the prospects of the interbank money market for maintaining short-term liquidity were still uncertain, the price (interest rate) of these funds remained relatively high and fairly erratic. This explains the continued interest of banks in short-term primary time deposits in 1999. At this stage, though, the high deposit rates banks offered were no longer „subsidised“ by high yields on Treasuries. As a result, given the inefficient and flagging lending activities, financing this type of deposits (or primary deposits in general) has turned into a purely loss-making exercise for banks. That is why the industry-wide loss reported by the banking sector in 1999 cannot be blamed on ill-shaped loan portfolios only, but also on high interests paid for liquid funds.

In 2000, banks' liquidity strains started to ease off and their interest rate policies evidently turned back to normal. We

need to stress that, apart from the government's strict fiscal policy (no substantial release of budget expenditures until December), the money market owes its stabilisation to a large extent to an important change in the implementation of NBS' monetary policy. The earlier quantitative liquidity management, whereby the NBS was discreetly and more or less unpredictably setting liquidity volumes to be supplied to the banking sector, with price (interest rate) determined by demand, may have proved an effective tool for defending a fixed exchange rate, but produced high volatility in national interbank market rates as a side effect. Following the exchange rate reform, this „protective“ function of quantitative liquidity control was no longer relevant; instead, there was an urgent need to stabilise the interbank market. From the systemic point of view, this called for the introduction of standard liquidity management solutions, which would provide banks with sufficiently reliable and regular access to refinancing facilities or sterilisation of surplus funds.

A set of key central bank rates is a standard monetary policy toolkit used for 'qualitative' management of banking sector liquidity, whereby the central bank sets the price (rate) at which banks can replenish their liquidity or get rid of any surpluses, rather than explicit volumes of liquidity to be pumped into or drained from the market. The fact that these rates are published officially and any change decisions are generally made at regular time intervals, combined with guaranteed access for banks to appropriate operations, usually tends to have a stabilising effect on the interbank and the entire money market.

The National Bank of Slovakia introduced its key rates in two phases in 2000. Overnight sterilising and refinancing rates have been in place since February 1, followed by the standard two-week repo limit rate on May 29.² NBS' move met with a positive response from commercial banks and, before long, its stabilising effect on the interbank money market showed through. A considerable reduction in the volatility of interbank market rates was the first result, followed some time later by an influence NBS' key rates had on the trends in individual BRIBOR maturities and their convergence (see Figure 4). As Figure 5 implies, the stabilisation and falling interbank market rates eventually translated into cuts in primary deposit and lending rates.

Although some may argue that the NBS should have switched from quantitative to qualitative liquidity control in 1999 already, others may cite concerns about making that big a change in NBS' monetary policy in coincidence with the recent exchange rate reform, especially when it was uncertain how the economy would respond to the introduction of floa-

² NBS' overnight sterilising rate was set at 8% p.a., the refinancing rate at 12% p.a. Since April 2000, sterilising operations can be done in form of deposits with the NBS, i.e. without the NBS providing securities as collateral. The standard repo rate started off at 8.5% p.a. The rates have fallen throughout the year, with the last decline approved by the NBS Bank Board on 26 March 2001 taking them to the following levels: refinancing rate 9%, sterilising rate 6%, and the two-week NBS repo tender limit rate at 7.75%.



Figure 4. Convergence of BRIBOR rates to the band of NBS rates

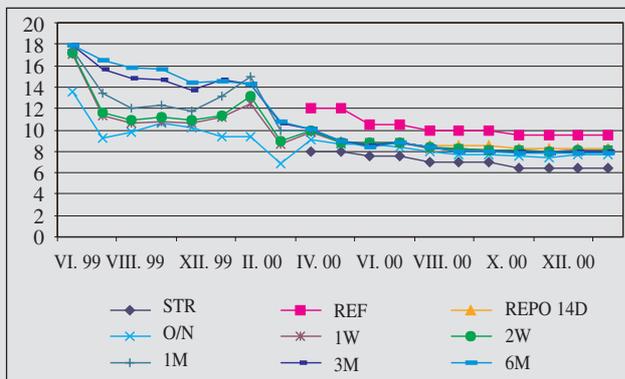
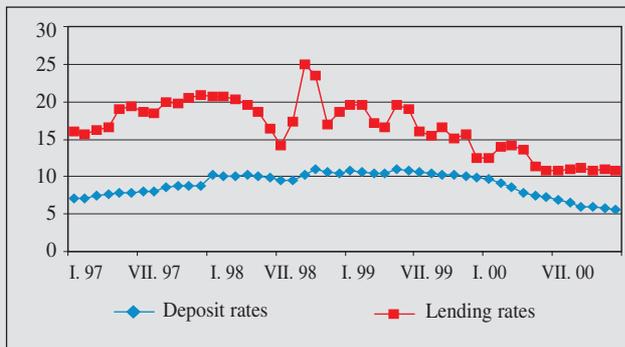


Figure 5. Average interest rate on deposits and loans

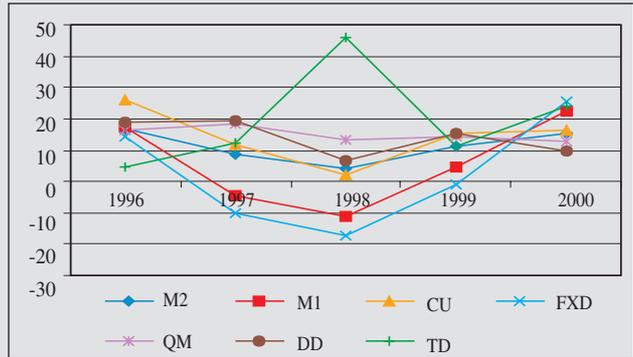


ting and given the time the SKK exchange rate needed to settle at a new equilibrium level. Another factor with major repercussions on the banking sector and the overall monetary environment in Slovakia in 1999 were the preparations to restructure the largest state-controlled banks, with their first stage carried out at the end of the year already. And, last but not least, 1999 was also a year of far-reaching changes in the external monetary environment in the wake of the rollout of the European Monetary Union, with the end of the year filled with uncertainty about how information systems would cope with the transition to a new millennium (the Y2K factor). In that light, NBS' wait before introducing its key interest rates (as late as) in 2000 can be perceived as a cautious effort to eliminate possible risks and uncertainties in what was a very complicated monetary development in 1999.

As this brief recap shows, Slovakia's monetary setting in 1997 – 2000 was far from what could be described as stable. The factors and incentives coming into play have not seldom produced contradictory effects on individual money market segments and, with varying intensity over time, shaped the preferences of economic entities (businesses and households) in placing their spare money in different categories of primary deposits.

At the end of the day, the factors forming the money market environment and the prevailing financial behaviour patterns among primary depositors combine in a certain structure of aggregate money supply in the economy. The results of a review of Slovakia's money supply evolution in the 1997-2000 are presented below in three main sections:

Figure 6. Growth rates in money supply M2 and individual money aggregates (year-on-year changes in %)



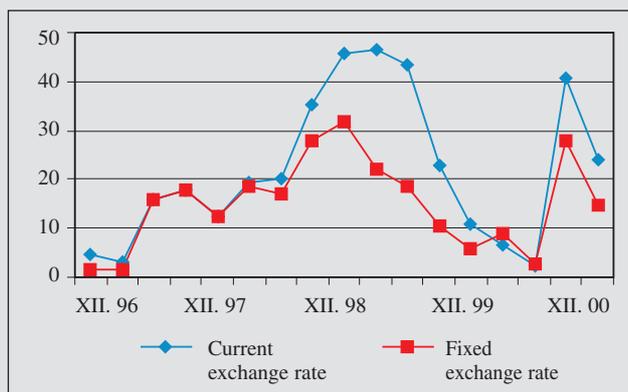
- basic money aggregates, i.e. M2 as divided into M1 and quasi-money QM;
- time deposits maturity structure, with emphasis on short-time deposits;
- deposit structure by sectors, broken down into household and corporate deposits.

Main money aggregates and basic indicators

The most important trends in the evolution of M2, M1 and QM aggregates and their key components in 1997-2000 are outlined in Figure 6. Against a largely inconsistent annual growth of the M2 aggregate, it highlights the importance of 1998 as of a breaking point in the pace of growth in individual aggregates. 1998 was the peak of cumulative effects an expansive fiscal policy and mounting devaluation fears had on the liquidity situation in the banking sector, resulting in an interbank market strapped for funds.

A slump in M1, coming on the heels of yet another major annual setback in demand deposits (DD) and stifled growth of currency in circulation (CU), gave away an increasing migration of these most liquid resources to far better yielding (short-) time deposits (TD), i.e. to the QM aggregate. This coincided with an unusually sharp annual jump in foreign currency deposits (FXD) prompted by fading confidence in the Slovak currency amid devaluation expectations, as well as by additional nominal value gains in the koruna equivalent of these deposits stemming from a falling SKK exchange rate after the fixed rate was let to float. The impact of exchange rate depreciation on foreign currency deposits can be seen in Figure 7, which shows their growth at current and fixed exchange rates (using the fixed rate applicable on 1 January 1993).

The reasons leading depositors to favour foreign currency deposits in 1998 have considerably slowed down koruna time deposits in the year, while fuelling rapid growth in QM. Apparently, QM recorded most consistent growth over the period, even though as far the motives for depositing spare funds in its individual components are concerned, quick interest profits on koruna deposits were temporarily outweighed by caution and expected exchange rate gains on foreign currency deposits.

**Figure 7. Growth in foreign currency deposits (quarterly, annual changes in %)**

The years 1999 and 2000 were marked especially by a fundamental change of trend in demand deposits as the money market calmed down and falling BRIBOR rates ended up decreasing short-term primary deposit rates. After an earlier plunge, demand deposits bounced back to record the highest growth of all basic M2 components in 2000, taking the entire M1 to considerable growth in the process. Foreign currency deposits were the second fastest riser of the year. The jump, concentrated in the 3rd quarter, is apparent in Figure 7. It was powered primarily by the proceeds of a selloff of the Slovak telecommunication company to a foreign investor in August.³

The processes and incentives shaping the path of individual money supply components over the four-year period have shaken up the internal structure of M2 a great deal (see Table 1). The greatest change was a 10% loss/gain in the weight of M1/QM in M2. The largest shift in favour of QM was registered in 1999, with QM's share in M2 later falling in 2000 due to a sharp decline in the share of time deposits, with M1 and QM weights settling at around their 1998 levels. More details on changes in the structure of M1 and QM are given in Tables 2 and 3. Changes in the makeup of QM were described above. Speaking of M1 and its structural evolution, we need to note that, given a fairly constant share of currency in circulation in M2, there were obvious rationalisation tendencies in the use of this non-profitable money supply component at times of high-paying very short-time deposits. A sharp rise in the share of money in circulation in M1 reported in 1999 does not reflect its actual track record during the year, as the bulk of new money in circulation came in December in preparation for Y2K computer system problems.

The aggregate change in M2 structure is expressed by a decline in the M1/M2 liquidity ratio. There are no clear-cut criteria for its interpretation, as it largely depends on the definition of total money supply M2 (or that of components over M1). A sharp fall in the M1/M2 ratio could indicate an

³ Another boost to foreign currency deposits in September was likely the product of a combination of several, separately hardly identifiable monetary, economic and non-economic factors (such as a depreciation in the exchange rate of SKK against USD and EUR, referendum-related expectations, possible foreign currency hoarding to provide for food imports following a low domestic grain harvest).

Table 1. Money supply structure in Slovakia (in % of M2)

	1996	1997	1998	1999	2000
Currency in circulation	10.4	10.7	10.5	10.9	11.0
Demand deposits	31.3	25.9	20.6	18.3	19.9
M1	41.7	36.6	31.1	29.2	30.9
Time deposits	48.3	53.0	54.4	56.3	53.5
Foreign currency deposits	10.0	10.4	14.5	14.5	15.5
Quasi-money (QM)	58.3	63.4	68.9	70.8	69.0
Liquidity ratio M1/M2	0.42	0.37	0.31	0.29	0.31
Dollarisation rate FXD/M2	0.10	0.10	0.14	0.14	0.16

Table 2. M1 structure (in % of M1)

	1996	1997	1998	1999	2000
Currency in circulation	25.0	29.3	33.8	37.4	35.6
Demand deposits	75.0	70.7	66.2	62.6	64.4

Table 3. QM structure (in % of QM)

	1996	1997	1998	1999	2000
Time deposits	82.8	83.6	79.0	79.6	77.5
Foreign currency deposits	17.2	16.4	21.0	20.4	22.5

approaching monetary crisis accompanied by an expected abrupt rise in the FXD/M2 dollarisation rate. In Slovakia's case, growing monetary problems, which the substantial setback in M1/M2 in 1997 and 1998 could evidence, were rooted in the koruna time deposits, although reasons which eventually swayed depositors to foreign currency deposits took another year to surface (1998). However, the individual adverse factors at work in the period were interconnected and pushed the monetary development down a track which eventually proved intolerable and resulted in a change of exchange rate system. Seen in this context, the ratios describing the basic composition of Slovakia's money supply in 1997 – 1998 support the predictive value of the liquidity ratio as an indicator of threats to monetary stability.

Time deposits and their maturity structure

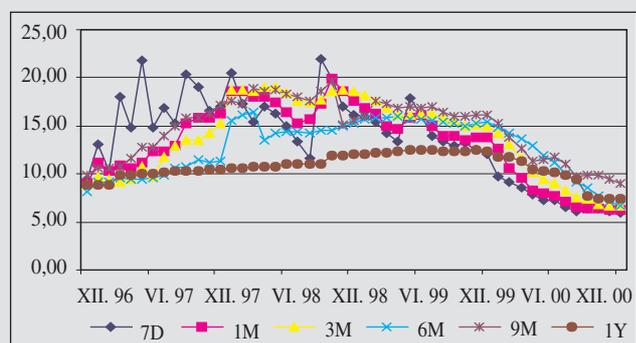
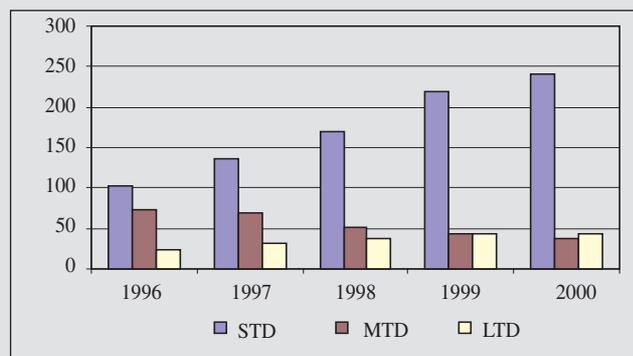
Time deposits (TD) owe their large gains in the past years in particular to lavish interest rates on very short-time deposits (all maturities up to 9 months) which caused a major shift in favour of this end of the maturity structure since 1997 (see Table 4).

Interest rates started to subside in 1999 and, in 2000, the average of rates offered on all maturities mentioned above (except the 9 month's maturity) landed below the 1-year benchmark rate (see Figure 8).⁴ The total volume of short-time deposits (STD) has posted another rise this year, while medium-term (MTD) and long-term (LTD) deposits basically stick

⁴ Apart from money market consolidation and a general improvement in the monetary environment, customer interest rates (both deposit and lending) benefited from a loan portfolio restructuring in most afflicted banks and a reduced influence of the largest banks on interest rate levels.

**Table 4. Time deposits' maturity structure**

	1997		1998		1999		2000	
	%	SKK bn						
Total time deposits								
thereof:	100.0	238.8	100.0	259.7	100.0	305.3	100.0	322.2
short-term	57.4	137.0	65.2	169.3	71.7	218.9	74.8	241.1
medium-term	29.2	69.7	20.1	52.2	14.3	43.8	11.8	38.0
long-term	13.4	32.1	14.7	38.2	14.0	42.6	13.4	43.1
Koruna-denominated deposits thereof:	100.0	356.0	100.0	357.0	100.0	401.7	100.0	443.4
demand deposits	32.9	117.2	27.3	97.4	24.0	96.3	27.3	121.2
time deposits	67.1	238.8	72.7	259.7	76.0	305.3	72.7	322.2
demand + short-term deposits	71.4	254.2	74.7	266.7	78.5	315.2	81.7	362.3

Figure 8. Average interest rates on short-time deposits**Figure 9. Main term deposit maturities (in SKK bn at year-end)**

to their 1999 levels (see Figure 9). In the four years reviewed, the share of short-term in total time deposits went from 51 to 75%, with medium-time deposits losing much ground and long-time deposits holding on to a relatively steady share.

The total short-term component (demand and short-time deposits) weighed in at nearly 82% of total koruna-denominated deposits at end-2000, up by 3% from 1999. Unlike in the previous years, however, its rise was no longer driven so-

⁵ In addition, Figure 10 tells us that if we used same-period data to measure the real interest, i.e. without moving CPI 1 year back, the real interest yield on deposits up to 1 year would be negative since mid-1999, except for July and August 2000. However, we do not believe this is a correct measure.

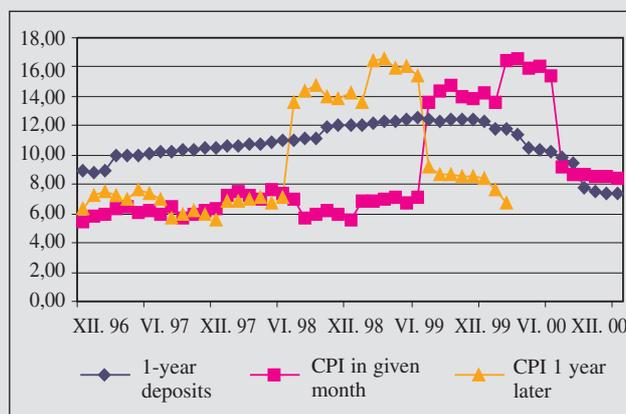
ly by the short-term deposit maturities, but also by a major recovery in demand deposits, which first broke through their 1997 level.

The evolution of short-time deposits in 1997 – 2000 can be characterised primarily by a permanent reduction in the volume of 1-year deposits, i.e. the longest maturity in this deposit category. One-year deposits represent a certain benchmark used to evaluate the public's financial behaviour, as a certain step between transaction money (or readily liquid deposits) and longer-time deposits made primarily for saving purposes.

On Slovakia's example, this special position of 1-year deposits inside the short-term deposit category can be demonstrated by a relatively stagnating (or only moderately growing) interest rate on these deposits at a time when there was a considerable growth of interest rate on deposits with shorter maturities.

Non-competitive interest rates on 1-year deposits have caused their two-third share in total short-time deposits in 1997 to sink to barely above one-fifth. However, as Figure 10 indicates, except for a spell of a temporary upswing in the consumer price index (CPI) resulting from a series of price deregulation moves and alterations in indirect taxes, these deposits have also produced real interest yields (defined as the margin between average interest rate on 1-year deposits and the CPI recorded in a given month 1 year later).⁵

Table 5 gives us a summary picture of how the structure of short-time deposits and interest rates for standard reported maturities developed in the 1997 – 2000, in half-year intervals.⁶ Their cumulative volumes are shown in Figure 11. Looking back at 1999 and, especially, 2000, we can see that asi-

Figure 10. Real interest yield on 1-year deposits

⁶ The data shown in the table includes household and corporate sector deposits. The figures were derived from statistical bank report forms V(NBS) 11-12. From monthly reported volumes for respective deposit maturities we subtracted deposits made by the government sector, non-profit organisations and deposits reported in the item 'Other'. Average interest rates were determined for volumes adjusted in this way.

**Table 5. Structure of short-time deposits and average interest rates**

	7-day		1-month		3-month		6-month		9-month		1-year	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dec. 1996	0.8	9.46	16.5	9.07	9.7	8.88	7.7	8.20	0.6	9.91	64.7	8.91
June 1997	7.2	14.86	17.3	12.35	6.2	9.68	10.1	9.61	0.5	12.85	58.7	10.07
Dec. 1997	6.0	16.94	34.4	16.34	7.5	15.20	4.8	11.28	0.3	17.09	46.9	10.50
June 1998	9.1	15.02	34.1	16.38	15.9	18.44	5.4	14.39	0.4	18.32	35.1	11.03
Dec. 1998	9.1	16.18	35.9	17.52	16.7	18.54	5.3	15.22	1.2	15.57	31.8	12.01
June 1999	16.2	16.17	32.3	16.16	18.7	16.27	7.0	15.69	1.7	16.89	24.2	12.52
Dec. 1999	12.2	12.10	30.1	13.78	23.6	14.97	9.3	15.44	1.1	16.20	23.7	12.33
June 2000	12.2	7.20	32.6	7.70	24.3	9.08	9.4	11.13	1.4	11.76	20.0	10.19
Dec. 2000	10.9	5.96	32.4	6.23	24.8	6.67	8.5	6.73	1.5	9.03	21.9	7.37

(1) share in short-time deposits in %; (2) average interest rate.

Source: V(NBS) 11-12: Monthly statement on the volume of deposits and average interest rates, own calculations.

de from a continuing decline in 1-year deposits, both in relative and absolute terms, a general fall of interest rates⁷ was accompanied by mounting volumes in all maturities. A certain change occurred in the second half and in particular in the last months of 2000, which brought a considerable increase in 1-year deposits, while the shortest 7-day deposits and the least used 9-month deposits went down. In a 2000/1999 comparison (apart from a slight decrease in 7-day deposits), all maturities recorded rising volumes, with most of the increase taking place in 1-month and 3-month maturities. Back in mid-1998, these maturities taken together accounted for exactly a half of short-time deposits, and by 2000 their share has grown steadily to 57%.

Despite shifting interest rate levels considerably reducing the yields on short maturities in 2000 and medium-time deposits (up to 2 years) offering higher profits (see Figure 12), the demand for medium-time deposits has been flagging constantly. It seems that the reason why this deposit category, used mostly as a saving product, fails to find enough support at the moment lies in a widening gap between income and mounting regular expenditures of the private sector caused by inflation, deregulated price hikes and other costs and restrictive effects of recurrent policy actions designed to the macroeconomic stabilisation. The lack of interest may also be attributed to a discouraged public doubting the long-term stability of the Slovak currency due to persistent potential risk of its further inflation and/or depreciation.

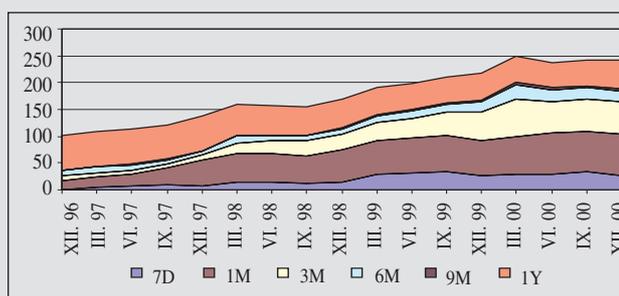
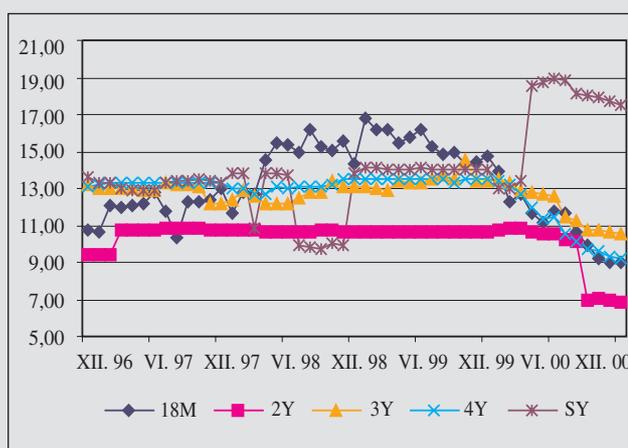
All these reasons probably explain why, despite lower interest rates, the flexibility and high liquidity of short-time deposits still makes them appealing to depositors. This behavioural pattern may be here to stay until distinctly better conditions – both profit and economic and institutional (such as more convincing provisions in the Deposit Protection Act) – are ensured to encourage people to put their money into products with longer maturities.

As a result, depositors largely turned to foreign currencies

⁷ Except for 9-month deposits in the first half of 1999 hitting their average monthly interest rate high of 16.95% in July.

as a savings vehicle in the period under review.⁸ Another large part of saving deposits is channelled to home savings, which make up virtually all of the long-time deposits. Home savings, a product limited to households until the end of 2000, will be discussed in greater detail in the part dealing with the sector structure of deposits. For now, we are just going to say that it was the steady, though slowing, growth of home savings that made for the constancy of

long-term in total time deposits – between 13 and 14% in the period under study.

Figure 11. Cumulative short-time deposits (in SKK bn)**Figure 12. Average interest rates on medium-time deposits**

⁸ One of the reasons foreign currency deposits are retained is the high cost of their conversion into koruna equivalents. On the other hand, since the launch of the European Monetary Union and the fixing of exchange rates of eurozone's national currencies against euro, the same effect may be produced by the absence of costs for euro area cross-currency conversions.

(To be continued in issue 8/2001)