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WORKING PAPER SERIES

MONETARY POLICY IN 1992: INSTRUMENTS AND RESULTS

Kamen Genov

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INTRODUCTION

Central planning in the ex-socialist countries was based on balancing of a system of physical indicators. The founders of the socialist economic theory retained the classical dichotomy between the real and monetary economy. They substituted however the working of the „invisible hand“, whereby the value proportions serve as a feedback in the process of production, with the „visible hand“ of the planning center, assigning purely technical functions to the monetary proportions*.

In the semi-monetized economy the economic agents faced different in scope and hardness constraints:

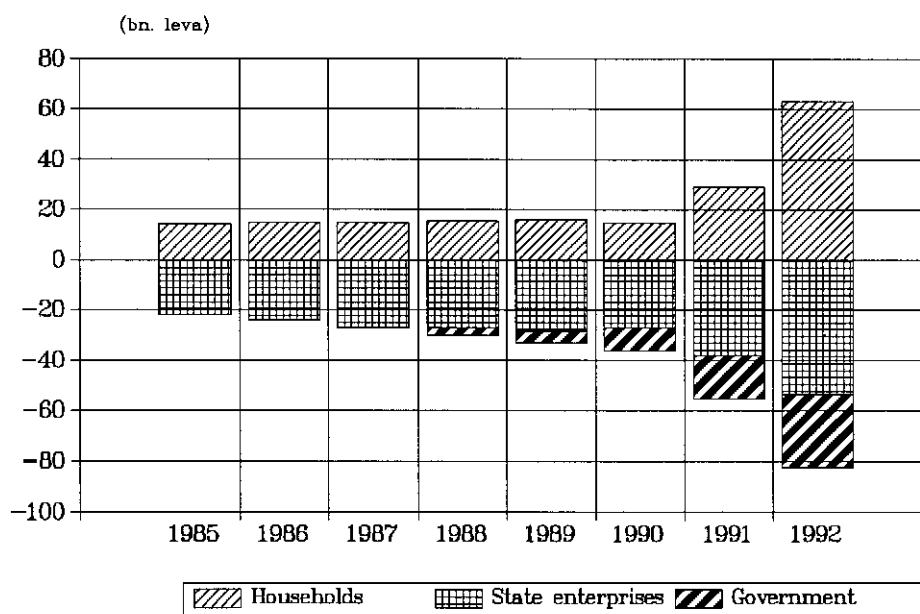
(*) Enterprises defined their needs of credit themselves and, subject to some corrections by the planning organs, these resources were granted to them. This mechanism led to an expansion of credit, that had no economic grounds, thus allowing the enterprises to operate under „soft budget constraints“;

(**) Government budget formally ended each year with no deficit, due to an easy crediting from the Central Bank through money creation or to transfers of households' forced savings from the State Savings Bank (SSB). The non-monetized deficit increased the money supply which, coupled with a slower increase of prices, led to shortages, accompanied by a growing inflationary potential;

(***) The population faced two-sided restrictions. On the one hand - fixed wages, on the other- centrally fixed prices and growing shortages in the so called „goods stock“. Due to these „hard budget constraints“ more than 20 bn leva were accumulated as savings in the SSB.

* Antonov, V. „Theoretical foundations of inflation under socialism“ (in Bulgarian), *Ikonomika*, Suppl.6, 1990.

Balance of Deposits and Credit Outstanding



Source BNB, AECD

The primary objectives in the monetary sphere of the economic reform that started in February 1991 amounted to: establishing equilibrium at the money market, to be achieved by contraction of the extremely high money demand to the level of the economically determined money supply; containing the inflationary pressures, triggered off by the price liberalization, the subsequent price shocks and the still active inflationary expectations of both producers and consumers.

In the early stage of the reform the necessary steps were followed firmly and persistently, which produced remarkable results: a drastic drop in the rate of inflation, increased demand for local currency, a shift from goods shortage to money shortage. The money supply and credit were reduced in real terms by 62% and 59% respectively. The monetary overhang was eliminated, thus considerably relaxing the inflationary pressure.

The financial soundness achieved however, contrasted more and more with the inadequate adjustment of the inherited economic structures. The attempts at macroeconomic stabilization in the context of these structures led to a severe deterioration in the financial position of state-run firms. This is clearly symptomatic of the extreme delay in initiating the structural reform in the Bulgarian economy. These developments have undermined the very essence of monetary policy as a prime instrument of the stabilization effort, making it virtually futile.

State enterprises, a number of private firms, the banking sector and the budget have entered into stable feedbacks resting on widespread insolvency, the possibility loss-making enterprises to draw credits for operating expenditures, and the ever growing bad debts to the banking and non-banking sectors (suppliers, the budget). All these have allowed economic agents to function under „soft budget constraints“, eventually rechanneling household savings to insolvent debtors.

Thus, in the context of a relative stabilization of certain macroeconomic parameters, the situation at the microlevel is characterized by unstable links, a chronic solvency crisis, a disregard of tax laws, and a number of loopholes in the monetary restrictions. All these are symptomatic of a deep financial crisis which ultimately reflects the structural inadequacy of the Bulgarian economy. Such a financial environment makes microeconomic behavior quite different from what the behavior of real market agents should be. □

THE INSTRUMENTS OF MONETARY POLICY

Amidst active inflation and still vigorous inflationary expectations, BNB's policy aimed at reducing the money demand through a contraction of the supply of money.

The following relations are used to determine the expected demand for money:

$$Y_e = \pi_e Y_r,$$

$$M_d = Y_e / v_e,$$

where: Y_e is projected GDP, Y_r - GDP in real terms, π_e expected inflation, v_e - expected velocity of money circulation and M_d is money demand. Thereafter changes in Net Foreign Assets are projected. Presuming that $M_d = M_s$ holds (M_s stands for money supply) and applying the identity:

$$M_s \equiv \text{NFA} + \text{NDA},$$

a targeted amount for Net Domestic Assets (NDA) is derived.

The BNB achieves the desired changes in NDA and the broad money through a corresponding mix of monetary policy instruments, that is subject to periodic adjustments.*

Direct instruments

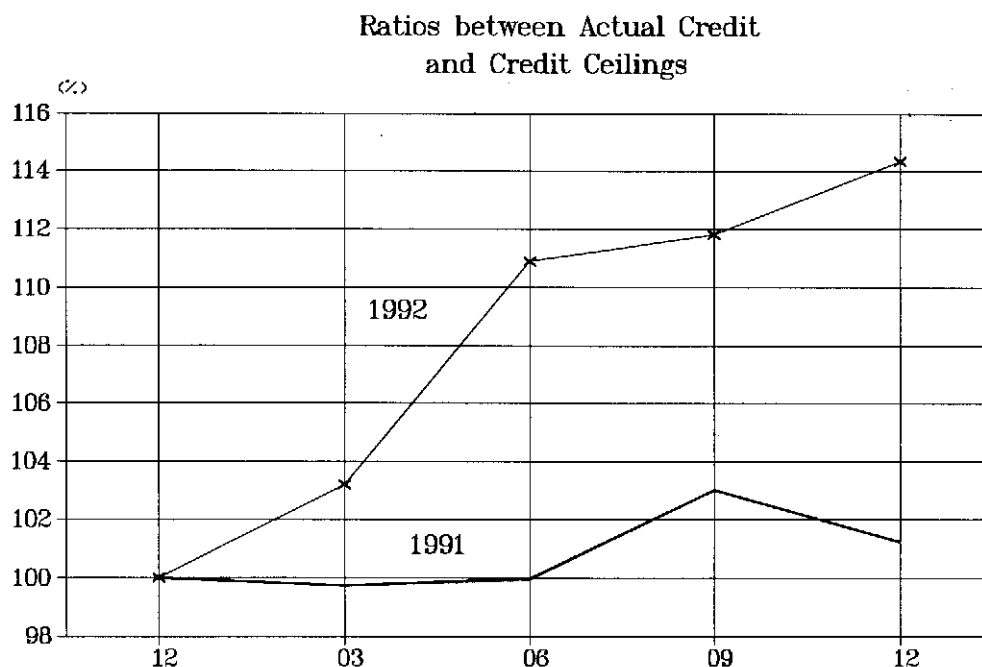
Credit ceilings remained the prime instrument of direct control over credit expansion to the nongovernment sector in 1992. They were individually set for each commercial bank and were first determined on a quarterly basis, and since April 1992 - on a monthly basis.

* The instruments of monetary policy are described in more details by L.Philipov in "Instruments of BNB's Monetary Policy", *Bank Review* № 4, 1992.

Credit allocation to the commercial banks was based on their relative share in overall credit at the end of the preceding year. Since June 1992 individual credit ceilings have reflected the changes in the relative share of resources attracted from the nongovernment sector in commercial banks' total liabilities. On the basis of their average share during the preceding three months and a corresponding coefficient, each bank's credit ceiling was subject to changes within the limits of two percentage points, and since the fourth quarter of 1991 there have been no limits at all.

Since July 1992 the commercial banks were allowed to trade at the BNB auctions 50% of the unutilized portion of their credit ceilings. The ceilings thus sold were continuously included in the ceiling bases of the buying banks. This regulation forced those banks, that permanently dispose of idle leva funds, (due to flaws in the current mechanism), to buy each month from the same banks ceilings at a very high price, which affects their rentability. An improvement in the resource allocation mechanism was introduced in October. Monthly increases of credit ceilings are set as follows: (i) a 1% increase for those banks, that have remained below their ceilings each month since the beginning of the year; (ii) the remaining part of the latter banks' ceiling is evenly distributed among the other banks, that are constrained by ceilings due to flaws in the way individual ceilings are set.

Throughout 1992 the ratio between the growth in domestic leva credit to the non-financial sector and the preliminary credit ceilings **constantly increased**. In the first, second and third quarters the cumulative ratio amounted to 103.2%, 107.2%, and 114.5%. This indicated that credit ceilings did not prove a fully efficient instrument for curbing the increase of domestic assets.



Source: BNB

The main reasons should be sought in:

- The large increase of the relative share of arrears in the commercial banks' overall leva credit. Interest on these credits further increased the total amount of arrears and thus restricted the amount of new credits to the real sector.

- The increasing amounts traded at the interbank money market, that inject excess liquidity to the commercial banks.

- The insufficient control and sanctions following an exceeding of the stipulated credit limits.

Indirect instruments

In 1992 the BNB retained its main instruments for control over the supply of money. Refinancing and the operations at the foreign exchange market resulted in changes in commercial banks' reserves („Central Bank money“), while credit restriction via credit ceilings influenced the commercial banks' „deposit money“ and the money multiplier.

1. Refinancing of commercial banks in the first quarter of 1992 through Lombard credits amounting to 4202.7 million leva accounted for the injection of additional liquid resources seeking higher return. This was made possible through the collateralization of Treasury bills, issued in exchange of nonperforming bank loans.

In the second, third and fourth quarters of 1992 the refinancing policy followed a definitely **restrictive trend**. This was necessary as credit ceilings were substantially exceeded, thus threatening the consistency of the anti-inflationary policy. The BNB curtailed the refinancing of commercial banks by offering smaller volumes at the interbank deposit auctions and by shifting the stress from uncollateralized refinancing over to refinancing via Lombard and discount loans. At the end of the first, second and third quarters of 1992 the actual amount of outstanding BNB deposits and loans to the commercial banks totalled 21.208 bn leva, 19.046 bn leva, and 15.054 leva respectively. At the end of November they reached 14.950 bn leva. We should be aware, however, that the BNB will have limited potential to curb refinancing in 1993 due to the structure of the credit outstanding. Genuine market instruments account for about 30% of the total. Such are the following instruments: interbank deposit auctions, Lombard credits* and commercial paper discounting. The other instruments (such as credits related to the conversion of the military production, the refinancing of the Yambol commercial bank creditors, as well as the greater part of Lombard credits) largely reflect the legacy of the bad-loans structure in economy.

A new system of settlements was introduced in October. When paying via their BNB demand deposits, the commercial banks are entitled

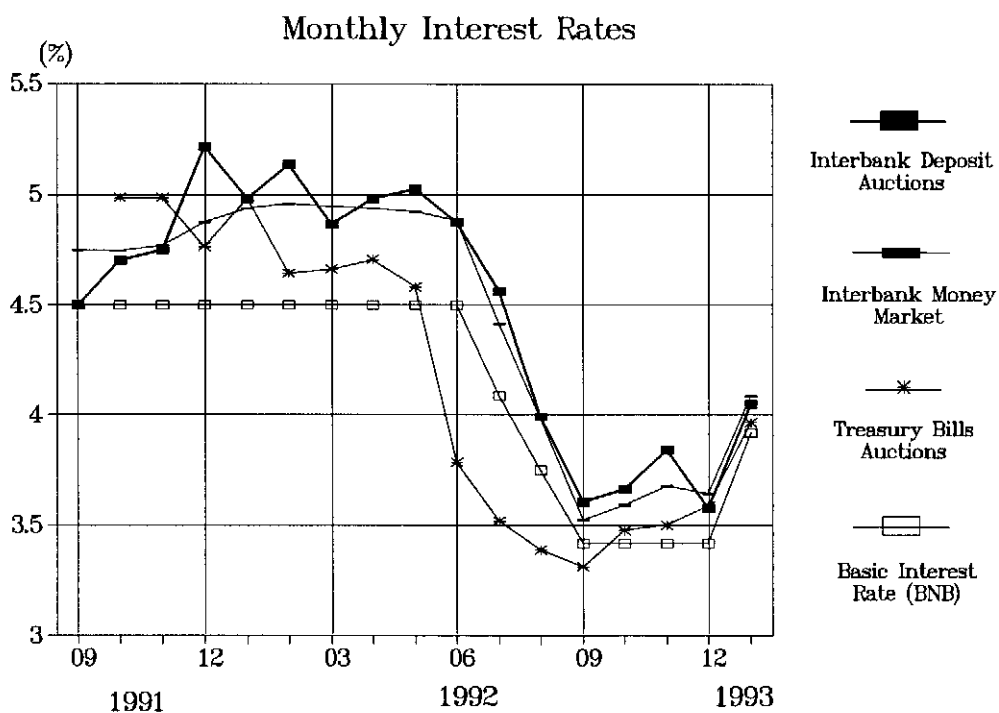
* *The Lombard credits extended against a bond collateral for the bad commercial bank loans which have been converted into government debt are excluded.*

to overdrafts up to the amount of the actually paid-in obligatory reserves. Following the introduction of the new system, the BNB started granting short-term (up to 1 month) deposits to commercial banks suffering from temporary liquidity shortages. The new system brought about some shortening of transfer lags and improvement of the quality of bank services.

2. **BNB's sale and purchase of foreign currency** was a much more flexible instrument than credit ceilings, allowing daily control over the leva money supply. The net result of the BNB's foreign exchange market operations was that the amounts of foreign currency bought exceeded the amounts sold, leading to a nearly 6 bn leva expansion of the leva money supply. The Bank intensified its interventions in the second and third quarters of 1992 when the leva equivalent of the balance of currency bought/sold oscillated between 3.3 and 3.4 bn leva. During that period the Bank's foreign exchange policy aimed at a smooth downward trend in the nominal BGL/USD exchange rate, that avoids disruptions at the foreign exchange market, and is tuned up to the overall trend in the sold/bought foreign currency ratio. These measures brought about an increase in foreign exchange reserves (up to 1.081 bn. USD in August) and did not contradict the monetary policy goals; they were in tune with the overall easing-up of restrictions (viz. the base interest rate lowering and credit ceilings raising). Simultaneously, the increase in the leva component of the M1 monetary aggregate had a definite inflationary impact.

3. In the first half of 1992 the BNB relied on **high nominal interest rates** to repress inflationary expectations. The base interest rate did not change, remaining at 54% on an annual basis. Parallel to the adjustment of credit restrictions and monetary aggregates, in July, August and September the BNB tried to use more actively the **interest**

policy as a key instrument for influencing the banking sector and hence, the money supply. The stable nominal exchange rate and the relatively low inflation allowed the BNB to operate with the base interest rate. Its consecutive lowering to 49%, 45%, and 41% resulted in curtailing the domestic government debt and the liabilities of some enterprises, since interest rates on deposits and credits, and at the auctions for interbank deposits as well, followed broadly the dynamics of the base rate.



Source: BNB, AECD

A significant weakening of the deposit base resulted from the higher inflation in the last quarter, the more negative real interest rates and the seasonal increase in the demand for cash. It should be noted that the absolute nominal decrease in the deposit base during the fourth quarter stemmed from the dynamics of firms' deposits. Household deposits experienced only a drop in their absolute net growth. To counter this negative tendency, the BNB increased the base rate by 6 percentage points (from 41% to 47%) in December.

In the fourth quarter the decrease in time deposits (in real terms) amounted to 88.6% of the overall decrease in broad money. The amount of money outside banks remained unchanged (prices and foreign exchange rates as at the end of the third quarter), with a real-term growth in demand deposits only. **The increase in the more liquid components (against a decrease in the less liquid ones) resulted in stronger inflationary pressures.**

4. In 1992 the market for government securities underwent a further development. The amounts traded increased and their maturities were diversified (three-, six-, and nine-month bills were offered). Most of the problems however remained unsolved. The SSB's dominating position as the main buyer is obviously convenient for the budget, since the cost of budget deficit financing is thus reduced. The commercial banks however staid out, since the cost of their credit resources is much higher than the SSB's cost. During September-December commercial banks' interest in Treasury bills trading weakened. The large amounts offered and the relatively low yield reduced the offers placed and unsold bills remained from the issues in the fourth quarter. The risklessness of income from government securities was not viewed as a sufficient compensation for their low yield by potential buyers. The comparison between market interest rates (weighted by the amounts traded) reveals that since June the average monthly yield of Treasury bills was lower than the base interest rate. The last quarter (when smaller amounts, compared to previous months, with higher discounts could not be sold) rendered obvious the vulnerability of this market to SSB's withdrawals.

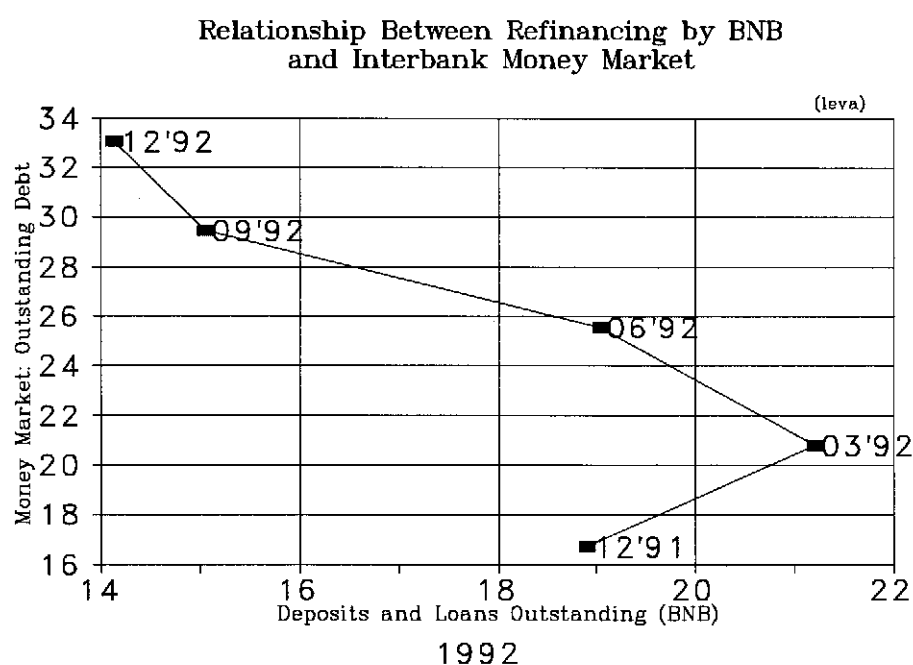
The lack of a secondary market and of an explicit annual schedule for the amounts offered during the year had an additional depressing effect over demand. Treasury bills in the commercial banks'

portfolios can be used as a collateral for Lombard credits up to 70% of their nominal value, carrying the base interest rate. If a bank buys Treasury bills, collateralizes them for a Lombard credit and loans to its customers the funds thus obtained, it should receive an yield that is comparable to the one received through direct crediting. Hence a strong interest towards Treasury bills (in view of the above safety margin) would require that the annual yield of Treasury bills with a face value of 100 leva should be approximately equal to the base interest rate plus a third of the average mark-up over it on credits.

5. A new development on the money market was the introduction of **open-market operations** (sale or purchase of government securities by the Central Bank entailing a change in the amount of reserve money). In principle the BNB could use them to regulate dynamically the commercial banks' liquidity. In January 1993 one repurchasing operation was realized involving Treasury bills from 5 different issues. However, expansion of the secondary securities market is suffering from the insufficient elaboration of the auctions mechanism. If the Ministry of Finance policy on the sale of government securities is well coordinated with the BNB's interest policy, we can expect a more buoyant securities market. Any future difficulties might arise from the expectations for a change in the base interest rate since the Treasury bills have a fixed yield. Therefore, we can expect a stronger demand for government securities with a shorter maturity period. □

EVASION OF RESTRICTIONS

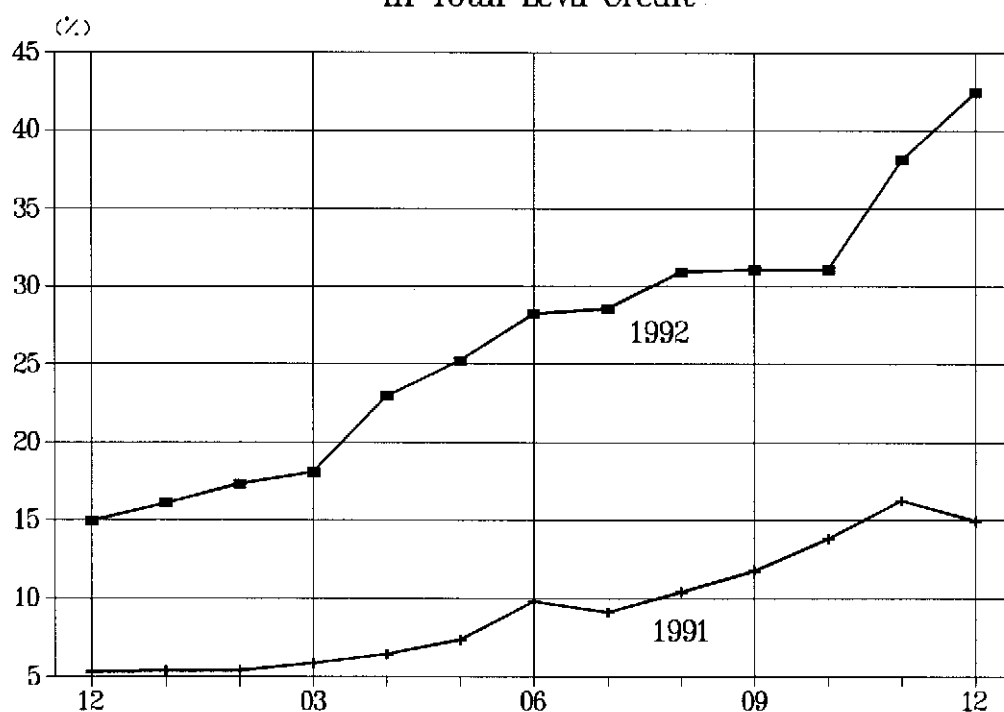
The willingness of the BNB to control the dynamics of the monetary aggregates and domestic credit notwithstanding, the commercial banks and firms found ways to go round the restrictions.



Source: BNB, AECD

1. Limited BNB refinancing in the second, third and fourth quarters forced the commercial banks to buy credit resources at the interbank money market. The monthly market volume in December surpassed its January volume by 5.579 bn leva, while the liabilities on deposits grew by 15.064 bn leva over the same period. The evasion of certain BNB restrictions as well as the flexibility of this market made it highly attractive for commercial banks, thus motivating them to participate actively and manage their liquidity more energetically. The main participant on the market was the SSB which holds over 70% of household bank deposits and at the same time has a minor share in the credit to non-financial enterprises. Thus the SSB is able to grant credits to the BNB, the commercial banks and the budget. At the end of 1992 its relative share in the overall credit and deposit debt on the interbank money market reached 73.9%.

Share of Credit and Interest Arrears
in Total Leva Credit



Source: BNB, AECD

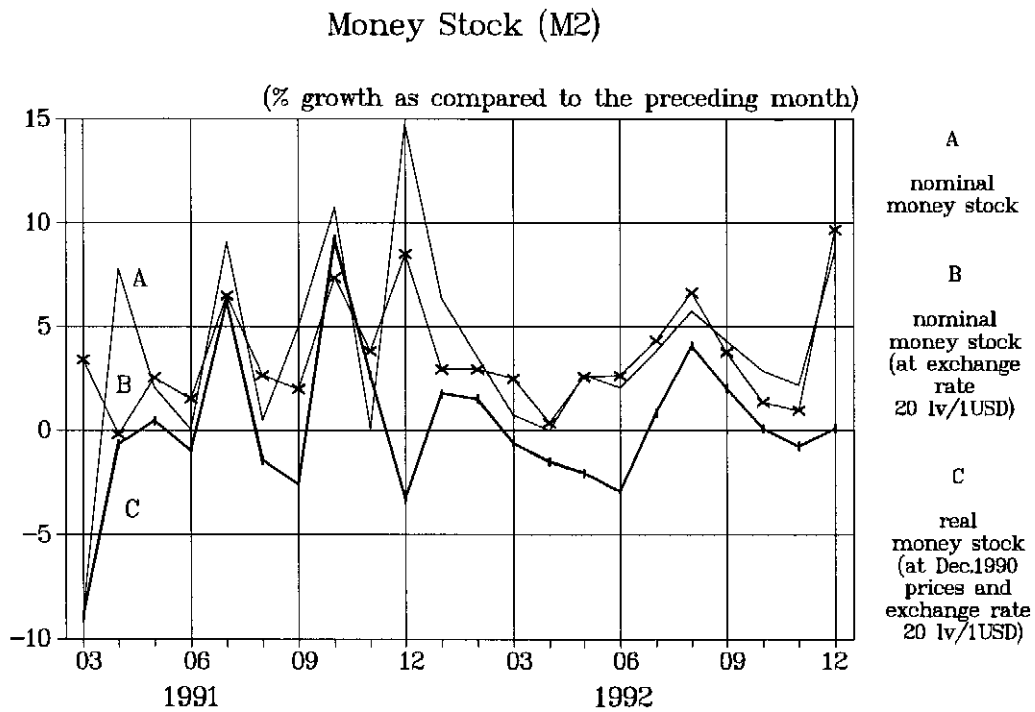
2. The deteriorating financial position of state-run enterprises in the real sector together with the high nominal interest rates gave rise to a **new wave of bad loans**. In 1992 the total amount of arrears in leva credits increased by 25.593 bn leva, 90% of which belong to industrial enterprises. The relative share of credit arrears within the overall leva credit amount rose sharply from 14.1% at the end of 1991 to 41.3% at the end of 1992. **The lack of a tangible privatization alternative and the continuing crediting of virtually insolvent enterprises by the commercial banks resulted in ever growing bad and non-performing loans during the stabilization period itself.** We should also note that apart from the adverse financial position of enterprises, this development was due to the common practice of uncollateralized enterprise crediting - an outcome of the insufficient control and the strong local and private interest pressures on the vulnerable regional banks.

In the fourth quarter the commercial banks faced powerful restrictions in their credit policy implementation. On the one hand the erosion of the deposit base limited the opportunities for granting new credits, and, on the other, **the growing relative share of non-performing and bad loans in their credit portfolios made them sustain a big spread between the credit and deposit interest rates.** In the fourth quarter the spread amounted to an average of 1.39% on a monthly basis (24.57% on an annual basis). The ratio between the average spread and the average interest rate on deposits sustained its upward trend: in the fourth quarter it reached 48.8% while in the first, second and third quarters it amounted to 36.7%, 34.7%, and 44% respectively. This inevitably led to a higher inflationary pressure and partially accounted for the gap between the RPI (retail price index) and the PPI (producer price index). □

MONETARY POLICY OUTCOMES

Monetary policy provided the main instruments of macroeconomic stabilization during the year. The flexible management of the money supply prevented inflation from getting out of control and allowed for a strengthened confidence in the national currency. Against the background of its moderately restrictive policy however, BNB tolerated a certain slackening of the monetary aggregates.

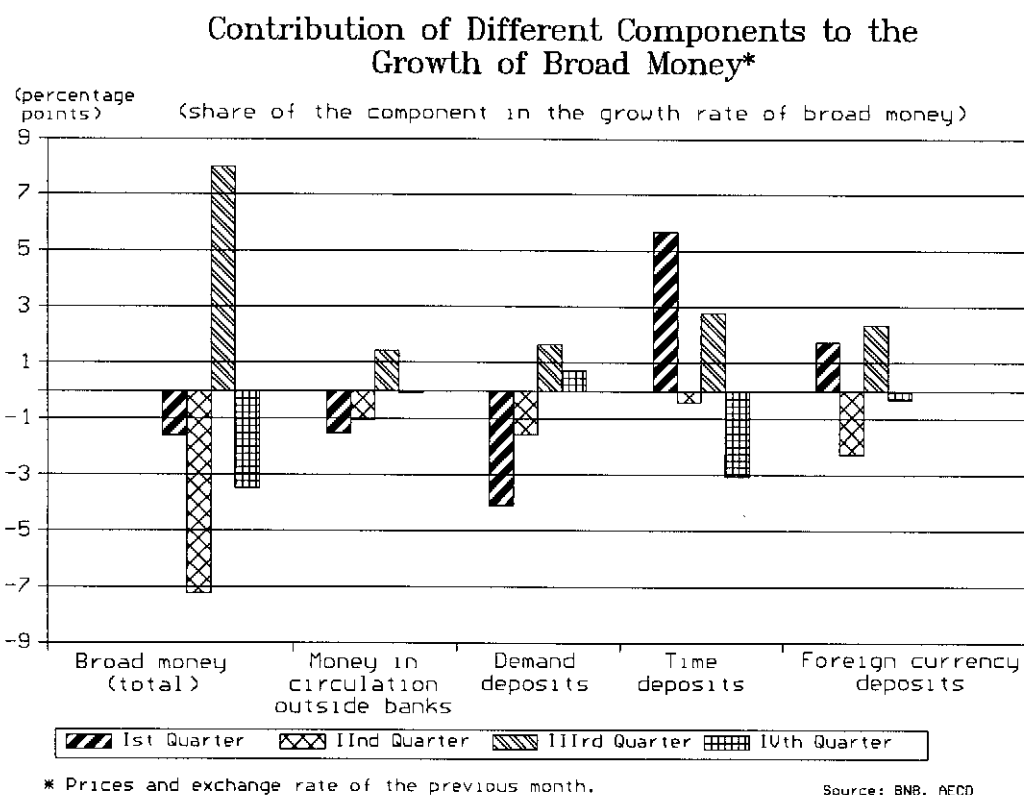
Broad money increased by 50.1% and M2 by 51.9%* in nominal terms, due to a greater than expected increase of domestic credit (and mostly of credit to the government sector). Quasi-money, and especially term leva deposits of households, exhibited the highest growth.



Source: BNB, AECD.

The share of cash and demand deposits (i.e. M1) in broad money went down from 24.1% to 22.7%, entailing a respective growth in the share of savings- and term deposits and foreign exchange deposits.

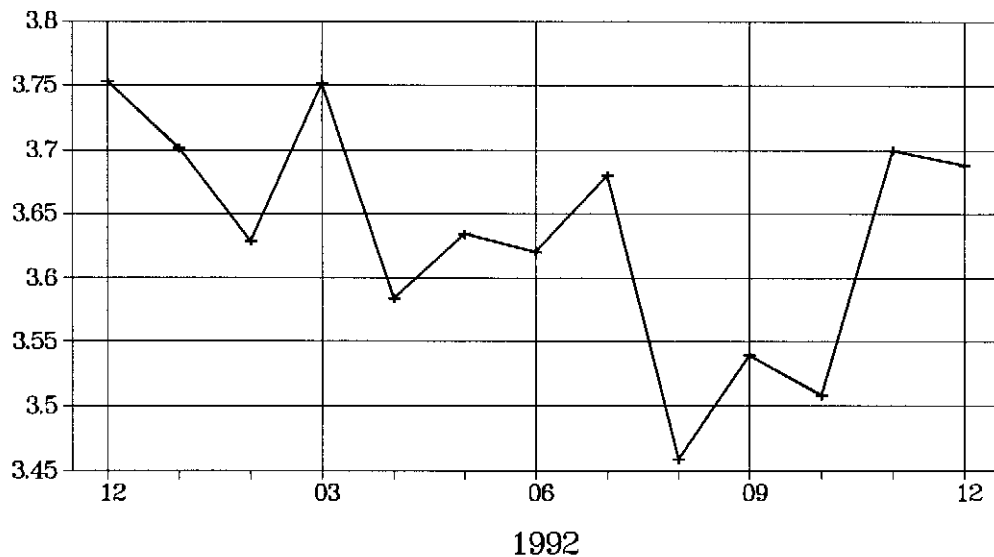
* Preliminary data from the consolidated Monetary Survey.



The changes in the quantity of money during the year were driven by the opposite influences of the money multiplier and the reserve money. Two clear-cut periods in the 1992 dynamics of the money multiplier may be distinguished. The active inflation, the high nominal interest rates, as well as the stable foreign exchange rate in the first nine-month period encouraged households to transfer savings in term leva deposits. This resulted in a higher quasi-money to M1 ratio. The amount of reserve money increased as a direct outcome, and the money multiplier followed a distinct downward trend. This trend was additionally supported by the steadily growing arrears in credit.

Due to the lower interest rates, in the last quarter of 1992 the amounts of money drawn out of time deposits exceeded the amounts deposited, leading to a relative drop in the amount of reserve money. (In November it underwent a nominal decrease as well). Simultaneously,

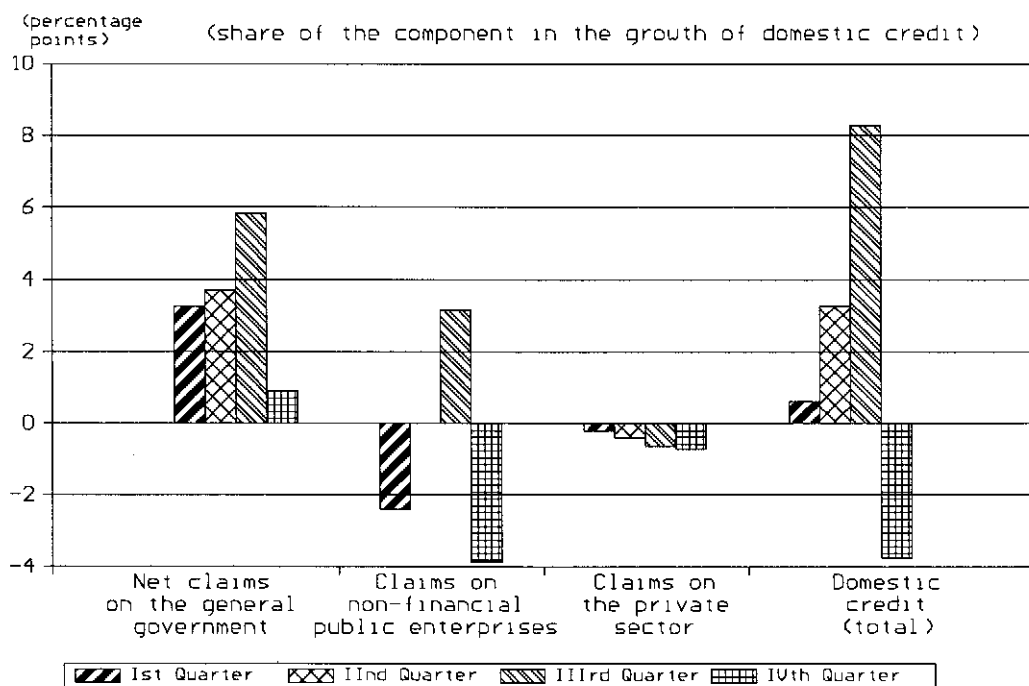
Money Multiplier
(Broad money / Reserve money)



Source: BNB, AECO

broad money increased as a result of the year-end interests paid on demand deposits. These factors „reversed“ the dynamics of the multiplier as its values rose to their early-1992 level.

Contribution of Different Components to the Growth of Domestic Credit*



* Prices and exchange rate of the previous month.

Source: BNB, AECO

The structure of the domestic credit growth indicates that throughout the whole year its rise has been mostly influenced by the claims to the government. At the end of 1991 the relative share of non-financial institutions in the overall credit amounted to 82.2%, and their share in the leva credit - to 68.3%. At the end of 1992 both dropped to 72.1% and 59.6% respectively as a result of the substantial growth in claims to the government and the exchange rate dynamics. The trend of a relative decrease in claims to the real sector (despite the increased amount of credit outstanding) can be seen as a negative development as it did not allow for a rational resource allocation. Obviously, the efficiency of the BNB's restrictive policy is conditional upon a tougher control over credit to the government sector that would prevent the unleashing of a stronger crowding-out effect.

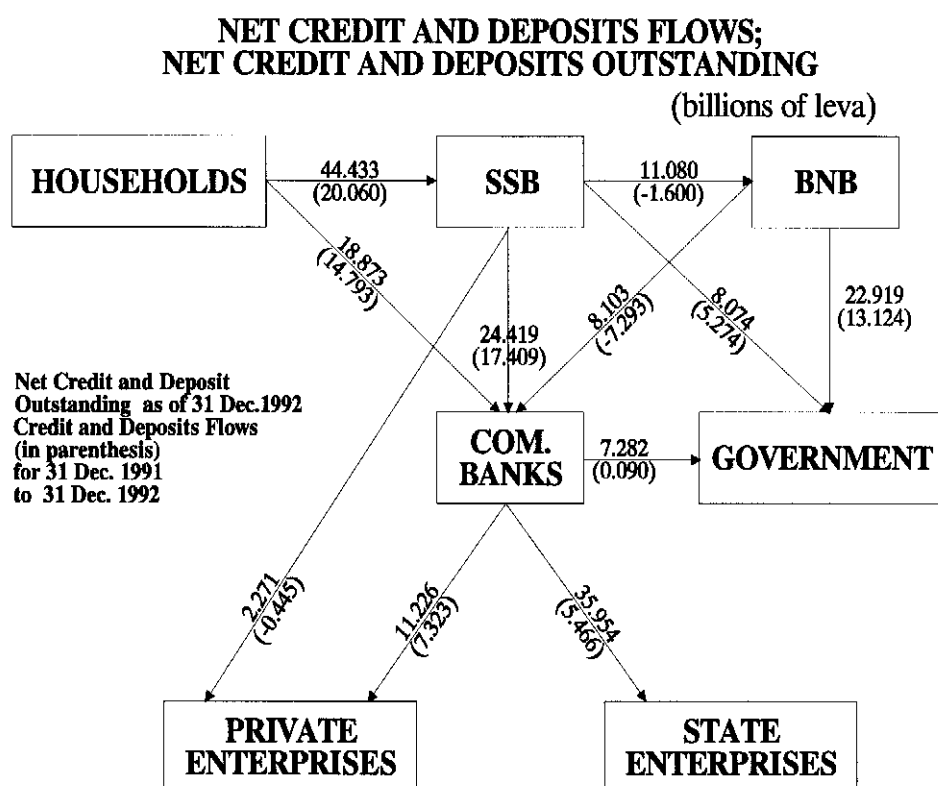
At the end of 1992 credit to the nongovernment sector amounted to 76.8% of GDP*. This ratio is 11.3 percentage points lower than in 1991. The shift is due both to the redirecting of credit to the government and to the stable nominal exchange rate during the year.

At the end of 1992 the leva credit outstanding for business activity amounted to 82.854 bn leva. The credit outstanding for the public sector accounted for 69.357 bn leva (83.7%) of the total, while the private sector got the remaining 13 497 bn leva (16.3%) in credits. The structure of the leva credit indicates an over-4- percentage-point **increase in the relative share of the private sector** (from about 12% in the beginning of 1992 to 16.3% at the end of the year).

Among the main aims set by the stabilization policy was the maintaining of high nominal (and, if possible, positive real) interest rates. Coupled with relatively low incomes, these rates led to an abrupt contraction in the demand for credits by the households, who thus became a net creditor in the economy. Accounting for a negligible share

* NSI's preliminary figure for GDP in 1992 is 195 bn leva.

of total lending to firms, the SSB disposed of significant amounts of free credit resources. The cost it paid for it was about one percentage point below the base interest rate on a monthly basis. This enabled it to direct household savings to the BNB, the commercial banks and the government budget which took the form of deposits, credits and purchases of government securities.



The above figure illustrates the structure and direction of credit flows in the economy*. It clearly indicates the role of the households as a net creditor and supplier of funds to the SSB and the commercial banks.

A clarification is needed concerning the „households“ figures used. The available data sources include under this category:

(*) households *per se*. In 1992 the stable nominal exchange rate and the increased confidence in the leva, as well as the lack of alternative

* The diagram shows only the credit flows. The remaining payments and liabilities among the institutional sectors, viz. taxes, subsidies, wages etc., are not included.

investment opportunities led households to increase persistently their savings in the commercial banks and in the State Savings Bank. At the same time high nominal interest rates and low incomes restricted severely the demand for credit. Under the SSB's loan terms, the difference between the monthly installments on credits maturing in 5 and in 20 years respectively is 9.4% at an annual interest rate of 50%, and 12.3% at an annual rate of 45%. Hence potential borrowers should have an income that is much higher than the average, and at the same time the advantages of long-term credit are strongly diminished;

(**) private firms: Their owners prefer to hold their free leva resources on term deposits, one of the reasons being the difference in interest rates applied to natural and legal persons.

(***) the inflow of foreign exchange in the country: The unusually high interest rate differential between leva and foreign exchange deposits attracted significant amounts of foreign resources. This inflow can explain, to a certain extent, the stability of the nominal exchange rate.

The remaining institutional sectors (government and the enterprises) are net debtors and principal users of the credit flows. Obviously, any drawback of savings would inevitably undermine the base of budget deficit financing. Hence the severely limited potential for interest rate lowering. On the other hand, it is clear that the ongoing crediting for insolvent enterprises is a highly inefficient transfer of household savings.

The evolution of nonperforming loans brought about a significant change in the distribution of credit between the state-owned and the private sector. At the end of 1992 the private sector's share in the total short term leva credit outstanding reached 17.5%* (8.1% at end-1991), while its share in the credit flow during the year stood at 45.5%. The share of nonperforming loans in the private sector is 15.7% compared to 30.1% in the state-owned.

* Credits from the SSB are not included.

Long term credit has been mainly extended to the state-owned sector (91.8% from the credit outstanding). At the end of 1992 the share of nonperforming long term loans reached 61.9%. The main portion of this (69%) is due to interest arrears.

It is clear that the snowballing of the nonperforming loans of the state firms increases strongly the riskiness of the banks' new credits. This explains both the „crowding out“ of the nongovernment sector and the redirection of credit from state-owned to private firms. □

CONCLUSION

Monetary policy in 1992 cannot be unequivocally assessed. The diversification and perfection of its instruments notwithstanding, the results stand in sharp contrast to the expectations. Restrictions were evaded. The highly elastic reaction to the untimely lowering of the base interest rate limits this instrument's applicability and lays the basis for budgetary policy to take the upper hand in 1993.

The deepening disproportion between the structures of monetary and real flows in the economy has led to:

- a growing inflationary potential;
- crowding out of solvent firms because of tightened credit terms;
- disruption of business relations, which can be seen as one reason for the slump in the real sector.

The delayed structural reform made „bad loans“ a gravest threat for the stabilization. The conversion of nonperforming loans into government debt by itself will not solve the problem. Unless the real sector is restructured, the irrational credit flows will be reproduced, thus substituting to a great extent subsidies from the budget that prevailed during the central planning period. □

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