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Issues in Reforming Financial Systems in Eastern Europe

The Case of Bulgaria

Alfredo Thorne

Authorities in Eastern European countries should encourage their reformed financial systems to stimulate the supply response by linking the reform of the financial system to the privatization of banks and enterprises.

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This paper — a product of the Trade and Finance Division, Technical Department, Europe and Central Asia and Middle East and North Africa Regions — is part of the department's regional study on financial sector reform in Eastern European countries. This paper was presented at a conference on Creating Capital Markets in Eastern Europe, organized by the Woodrow Wilson Center in Sofia, Bulgaria, in September 1991. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lanha Ly, room H9-071, extension 37352 (April 1992, 42 pages).

What difficulties do Eastern European countries face in reforming their financial systems? What should their reform priorities be? Can financial reform make the supply response more positive?

Thorne addresses these questions using the situation in Bulgaria to illustrate the financial system most Eastern European countries have inherited. Reforming these financial systems is especially difficult because of the problems inherited from a centrally planned economy (CPE). The financial system in a CPE is completely different from the financial system in a market economy. It is only a slight exaggeration to say that reforming the financial systems in these countries means creating a financial system from scratch.

Thorne illustrates the types of problems Eastern European countries face in reforming their financial systems. He argues that these countries can stimulate the supply response by giving the emerging private sector more access to credit and by increasing the savings deposited in the financial system. He argues that the authorities should:

- Link reform of the financial sector to the privatization of banks and enterprises.
- Quickly privatize a group of banks.
- Encourage privatized banks to lend exclusively to the emerging private sector.
- Turn the rest of the banks into investment banks and make them participate in the restructuring and privatization of state-owned enterprises.

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A. INTRODUCTION

The reform of the financial system is a key aspect of the overall economic transformation process undertaken by the former centrally-planned Eastern European countries. In the short term this reform should contribute to the stabilization objective by providing the authorities additional instruments for managing monetary policy and controlling inflationary pressures, while in the medium term it should enhance the supply response by improving the allocation of resources. However and unlike other developing countries, this is not a simple task for the former centrally-planned Eastern European countries. It is only a slight exaggeration to say that in these countries reforming the financial system consists of creating a financial system from scratch. Most of these countries inherited financial systems geared to the needs of a centrally-planned economy, which are different from the needs of a market-economy.

This paper is an attempt to illustrate the type of problems that Eastern European countries face in reforming their financial systems. This is done by using the case of Bulgaria to illustrate the initial conditions. Only by focusing on the experience of a particular country can one fully understand the problems inherited by these economies and make specific proposals for their solution. In this paper I argue that the Bulgaria, and other Eastern European countries, should enhance the supply response by reforming their financial systems. This reform can contribute to this purpose if the authorities: (i) link the financial sector reform to the enterprise and banks' privatization; (ii) quickly privatize a group of banks; (iii) encourage privatized banks to lend exclusively to the emerging private sector; and (iv) turn the rest of banks into investment banks and make them participate in the process of restructuring and privatization of state-owned enterprises. This should stimulate the supply response by providing the emerging private sector more access to credit and by increasing the savings deposited in the financial system.

Sections B and C focus on the case of Bulgaria. Section B describes the financial system as it was at end-1990 and identifies the structural problems inherited; and Section C describes the Government's financial sector measures taken up through June 1991. Section D focuses on alternative approaches for dealing with the structural problems as well as their pros and cons. This provides a framework for using the financial system to enhance the supply response. The last section is devoted to the conclusions. Annex 1 discusses the problems with the data used.

B. THE CURRENT FINANCIAL SYSTEM AND STRUCTURAL ISSUES.

This section briefly discusses the current financial system, then identifies the most

important structural issues, and finally discusses the issues in resource allocation, which are the allocation of credit and monetary overhang.

B.1 The Current Financial System

By end-1990, the Bulgarian financial system consisted of the National Bank of Bulgaria (NBB), the State and Savings Bank (SSB), the Bulgarian Foreign Trade Bank (BFTB), eight specialized commercial banks (SCB), 59 common commercial banks (CCB) and two private common commercial banks (the First Private Bank and the Agriculture and Credit Bank). All banks were established as shareholding companies and were licensed to operate as universal banks. Except for the two private banks, the banks were either owned by the NBB, the BFTB or public sector enterprises. Only eleven banks (seven SCBs, the BFTB, Stroybank and Bulgarsoinvest) were authorized to open accounts and contract loans directly with foreign banks, and although CCBs can accept foreign exchange deposits, they had to re-sell them to BFTB for the lev equivalent.

Before 1981 the financial system consisted of the NBB, the BFTB and the SSB. The NBB, in addition to its duties as central bank, also provided finance and accepted deposits from the enterprise and the Government sectors. The BFTB specialized in foreign exchange transactions which included contracting, on behalf of the Government, foreign loans with foreign banks, accepting foreign exchange deposits and managing the foreign exchange reserves. It provided loans to finance Bulgarian exports and provided pre-financing to importers and exporters. The BFTB was also responsible for administering the foreign exchange regulations and was the authorized agent in the relations with the former CMEA countries. The SSB was created as a specialized bank servicing the household sector. It accepted households deposits, granted consumer and housing loans as well as providing other bank services geared to households such as organizing the state lottery. In addition, the SSB was a net provider of funds to the system by depositing its excess funds with NBB.

Changes started in 1981. First in 1981 the authorities created the Mineral Bank as a shareholding company with the objective of providing finance to the enterprise sector above the targets set in the plan and for projects not included in the financial plan. In 1987, the NBB established seven specialized banks and transferred most of its investment portfolio to them and the Mineral Bank, thus creating a two-tier banking system. These seven banks plus the Mineral Bank, which make up the eight SCB, specialized in a particular sub-sector and in long-term investment finance. In May 1989, the NBB adopted further changes, which took effect only in early 1990. These changes entailed the creation of 59 commercial banks out of NBB's former

branches and the selling of the rest of NBB's branches to the commercial banks. Also, the two-tier banking system was abolished, and all banks were allowed to function as universal banks. This enabled banks to provide short- and long-term loans, accept deposits from individuals and enterprises, and grant housing and consumer loans to individuals. All banks were transformed into shareholding companies and the NBB started selling its bank shares to public sector enterprises.

The changes leading to the creation of both SCBs and CCBs implied a large transfer of resources from the NBB to the SCBs and CCBs. In 1987, the NBB created the SCBs by transferring the equivalent of 33 percent of GDP in enterprise sector assets and by granting loans equivalent to 36 percent of GDP. As a result, NBB's enterprise sector assets fell from 89 percent of GDP in 1986 to 51 percent in 1987. Similarly, in 1990 the NBB created the 59 CCBs by transferring 40 percent of GDP in enterprise sector assets, 22 percent of GDP in demand deposits and granted loans equivalent to 20 percent of GDP. As a result, NBB's enterprise sector assets fell from 51 percent of GDP in December 1989 to 0 percent in March 1990 and demand deposits fell from 26 percent of GDP in December 1989 to 0 percent in March 1990. However, the SCBs and the CCBs were created with no additional infusion of capital.

B.2 Structural Issues

The creation of the SCBs and CCBs and the conversion to universal banking allowed greater competition among banks but, in fact, little was changed. SCBs started diversifying their lending into different sectors other than the one they were established for and into short term lending; and CCBs started attracting more deposits and diversifying their lending. NBB in an attempt to diversify CCBs' and SCBs' ownership started selling these banks shares to public sector enterprises. But, in spite of the Government efforts to diversify the structure of the financial system and to enhance competition and banks' initial response, the financial system changed very little and problems remained.

What follows is a brief description of the nine most salient structural issues the financial system was experiencing at the end of 1990, that is, before the authorities started the reform of the financial system.[1] These issues are summarized in Tables 1 and 2.

(i) **Segmentation.** The financial system was segmented both in terms of size (deposits,

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1/ Despite the Government's recent measures, most of these structural issues still remain. Currenly, the authorities are discussing the strategy for reforming the financial system.

capital and assets) and areas of specialization (see Table 1). The pre-1987 segmentation, despite the measures undertaken for diversification, still prevailed. NBB was the largest bank, accounting for 23 percent of total assets and for 57 percent of total capital; SSB was specialized in the housing sector and accounted for 46 percent of the deposits; and BFTB was specialized in foreign exchange transactions and accounted for 93 percent of total foreign exchange liabilities. In contrast, SCBs and CCBs accounted for a very small proportion of the banking business and lacked independence. They were fully owned and controlled by the NBB. Moreover, while the SSB accounted for most of the deposits, mostly from households, only a portion were used to finance mortgages. The NBB used them to fund the SCBs and CCBs.

Table 1: Liabilities and Assets by Group of Banks, as of 1990
(As Percentage of Total)

	Sources of Funds						Assets	
	Deposits 1/	Central Govt's Credits	NBB's Credits 2/	Credits i Foreign Exchange 3/	Capital 4/	Other Net 5/	Total	Net of Clearing 6/
National Bank of Bulgaria, NBB	15.8%	0.0%	0.0%	0.0%	56.5%	12.0%	23.7%	20.5%
State and Savings Bank, SSB	46.2%	1.5%	0.0%	0.1%	2.8%	4.0%	13.3%	13.9%
Bulgarian Foreign Trade Bank, BTFB	10.1%	3.1%	1.2%	93.6%	13.1%	64.7%	23.5%	24.4%
Specialized Commercial Banks, SCB	11.2%	1.0%	60.8%	6.3%	16.1%	32.0%	15.1%	15.7%
Common Commercial Banks, CCB	16.8%	94.5%	38.0%	0.0%	11.4%	-12.7%	24.5%	25.5%
Of which:								
Largest 5 7/	44.4%	n.a.	31.8%	n.a.	24.6%	n.a.	56.3%	
Smallest 5 7/	1.0%	n.a.	0.6%	n.a.	3.4%	n.a.	0.7%	

SOURCE: National Bank of Bulgaria, Monetary Survey.

Notes: (1) In the case of NBB, consists of currency outside banks and time, savings and foreign currency deposits; and for the other banks consist of: demand; time, savings and foreign currency; and import and restricted deposits. Total CCB's deposits exclude Municipalities' demand deposits in line with IMF's methodological guidelines for 1990 Monetary Survey estimates. (2) Consists of both NBB's loans to banks recorded in the Monetary Survey as "Credit from National Bank" and in "Other Liabilities;" and exclude NBB's loans for the purpose of the clearing system. (3) Excludes foreign currency deposits. (4) Define as the paid-in capital and excludes non-capitalized retain profits and reserves. (5) Defined as the item the Monetary Survey's item "Others Items, Net" and excludes NBB s loans to CCB and SCB and the valuation effect of foreign exchange loans granted, in the case of BFTB. Both of these are classify in "Other Items, Net" in the Monetary Survey. The valuation effect is recorded in "Other accounts receivable." (6) Exclude "Other Assets" which mainly consist of the outstanding amounts in the clearing system. (7) Indicates the proportion concentrated by the largest (smallest) five banks. Largest (and smallest) five banks are defined in relation to each variable, e.g., deposits, capital, assets.

(ii) **Concentration.** The three largest banks held most of the assets, deposits and capital, while the 67 commercial banks held only a very small share of assets, deposits and capital. In fact, the Bulgarian financial system was characterized by the coexistence of very large banks together with very small banks. NBB, SSB and BFTB (see Table 1) held 24, 13 and 23 percent of total assets; 16, 46 and 10 percent of total deposits; and 56, 3 and 13 percent of total capital, respectively. In contrast and on average, each SCB accounted for 1.8 of total assets, 1.4 percent of total deposits and 2 percent of total capital; and each CCB accounted for 0.4 percent of total assets, 0.6 percent of total deposits and 0.2 of total capital. Concentration is also a problem within the CCBs. The largest five banks in terms of deposits held 44 percent of total CCBs

deposits and the smallest five held only 1 percent of total CCBs deposits. The situation is similar with assets and capital. The largest 5 CCBs in terms of assets and capital held 56 and 25 percent of CCBs' total assets and capital; and the smallest five held 0.6 and 3.4 percent, respectively.[2]

(iii) **Reliance on NBB's credits.** A key feature of the financial system was SCBs and CCBs reliance on NBB credit. This resulted in an odd situation: NBB had to borrow SSBs' excess deposits to provide SCBs and CCBs with the necessary funds for their lending. However, as will be explained in more detail later, interest rates had very little to do with this distortion. This resulted from the way in which NBB established these banks--by transferring both its loan portfolio and the necessary finance. This kind of reliance indicates that banks have accomplished little in terms of diversifying their sources of funds (see Table 1). The eight SCBs held 61 percent of total NBB credits, and the 59 CCBs held 38 percent. This reliance can be measured more accurately using the ratio of total NBB credit to total commercial bank assets. On average, SCBs' ratio was 57 percent and CCBs' was 22 percent; of the eight SCBs, six had a ratio greater than 30 percent, and of the 59 CCBs, 23 had a ratio greater than 30 percent. Moreover, most of NBB's credit to CCBs was held by a few CCBs. For instance, 32 percent of NBB credits to CCBs was held by the largest five CCBs (in terms of NBBs credits) and the 0.6 percent by the smallest five CCBs.

(iv) **Branch concentration.** Another important problem was the small number of bank branches and their concentration. The number of bank branches per inhabitant was small when compared to countries with the same level of development. However, more important was that these few bank branches were owned by one bank: the SSB. The branch concentration had, in turn, contributed to SSB's deposit concentration and to commercial bank reliance on NBB's credits (see Table 2). SSB owned 3,915 places of business out of the financial system's total of 4,129; and 242 branches out of a total of 356. In contrast and on average, each SCB owned 6 places of business and 0 branches and each CCB owned 3 places of business and 2 branches. An important factor contributing to this was the design of the post-1987 changes. When both the SCBs and the CCB were created, they were established as banks without branches. And, since then the lack of dynamic and independent bank management and the absence of a real estate market have deterred banks from increasing the number of branches.

(v) **Inadequate capital.** Bank capital was small relative to their volume of assets and, more important, to their volume of non-performing assets. Banks had, on average, a ratio of capital to risk assets of 5 percent. This ratio was well below the 8 percent recommended by the Basle

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2/ In fact, one CCB, Sofia Bank, accounts for 26 percent of total CCBs deposits and for 43 percent of total assets.

agreement. However, this average ratio understated the true extent to which banks were undercapitalized because while the Basle agreement defines assets to exclude non-performing assets, in Bulgaria the asset definition included them. And in Bulgaria, as will be discussed later, banks held a large proportion of non-performing assets. Ratio of capital to risk assets varied among banks. In general and excluding the NBB, the largest banks in terms of assets had the lowest ratio (see Table 2). The two largest banks, SSB and BFTB, had a ratio of 1 and 3 percent, respectively. While on average SCBs and CCBs had a ratio of 5 and 2 percent respectively, five out of the eight SCBs--which accounted for 80 percent of SCBs' assets--had a ratio below 5 percent; and the largest five CCBs in terms of assets had a ratio of less than 0.9 percent.

Table 2: Financial System's Indicators, as of 1990 1/

	Number of:			Capital to Asset Ratio	Gross Profits (As Percentage of Total Assets)	Operative Expenses (As Percentage of Total Assets)	Wages and Salaries (As Percentage of Total Assets)
	Banks	Places Business	Branches				
National Bank of Bulgaria, NBB	1	1	0	12.0%	1.22%	0.10%	0.05%
State and Savings Bank, SSB	1	3915	242	1.1%	1.03%	0.18%	0.10%
Bulgarian Foreign Trade Bank, BTFB	1	2	0	2.8%	3.51%	0.06%	0.02%
Specialized Commercial Banks, SCB	8	51	0	5.4%	1.22%	0.03%	0.01%
Common Commercial Banks, CCB	59	160	114	2.3%			
Of which:							
Largest 5 2/	8.5%	5.0%	0.0%	0.9%	n.a.	n.a.	n.a.
Smallest 5 2/	8.5%	3.1%	0.0%	10.9%	n.a.	n.a.	n.a.

Source: National Bank of Bulgaria, Monetary Survey; National Banks of Bulgaria, Banks' Supervision Department; and Banks.

Notes: (1) Asset data is subject to measurement errors (see Annex 1), however, in this table it is only used for comparative purposes. Assets are defined to include outstanding balances in the clearing system. Asset information is for end-1989. (2) Indicates the proportion concentrated by the largest (smallest) five banks. Largest (and smallest) five banks are defined in terms of assets.

(vi) **Profitability.** Banks' reported profits, although very high by international standards, failed to accurately measure bank profitability for two reasons. First, recorded profits (see Table 2) were accrued, thus including interest income that has not been actually paid. Second, banks were not forced to make provisions on loans in arrears and in moratorium. Had banks had to make provisions on these loans, their profits would had been smaller. Bulgarian banks held these loans without being forced to provision. This was even though regulation on bank provisioning was in place since 1987. Until 1991, banks were not forced to comply with such regulations nor to classify their loans according to performance.

(vii) **Ownership.** Bank ownership in Bulgaria was characterized by conflict of interest which raises certain problems. NBB was the major shareholder of SCBs and CCBs. Other important shareholders were the BFTB and public sector enterprises. NBB ownership of banks posed a

problem of conflict of interest because NBB was both owner and the institution responsible for supervising and controlling these banks. To overcome this difficulty, in 1990 NBB started selling its shares of these banks. However, major buyers were the public sector enterprises and other banks and these enterprises were also major borrowers from these banks. In many cases, borrowers with problem loans bought banks' shares to guarantee continuous access to credit. Banks bought shares of each other to reduce their dependence on NBB. This public sector enterprise ownership of banks raised a problem of conflict of interest because it limited banks' ability to collect loans by exerting pressure on borrowers. (In other Socialist countries, such as Yugoslavia, this was a major factor explaining the accumulation of large losses in banks.[3]) Loss of bank control by the NBB, as a result of the sales of shares to public sector enterprises and banks, poses the problem of "spontaneous" privatization. Although in principle there is nothing wrong with banks' privatization, it is not desirable to sell problem banks to the private sector. This can result in bank failure and thus undermine private sector's confidence in future privatization efforts.

(viii) **Payments system.** Banks' checking accounts were underdeveloped and the system for clearing outstanding accounts took a very long time.[4] Both of these problems led to: (i) the use of cash by individuals and enterprises as the means of payment; and (ii) the accumulation of large outstanding unsettled balances between banks. The persistence of large outstanding balances in banks resulted in an excessively large stock of base money which was explained by the inefficiency of the payment system. Large outstanding balances can result in inflationary pressures if they turn into currency. NBB started improving the payment system by creating Bankservice, a fully owned subsidiary in charge of the clearing system, but progress was insufficient.

(ix) **Management.** Banks managers lack the necessary skills to manage banks in a market economy. Most bankers were trained to manage a bank in a system where the concept of risk and return on assets and liabilities was absent. Bankers were responsible for executing orders from the NBB. The transition to a market-economy system requires bankers capable of assessing risk and the borrowers' ability to repay their loans. This would require re-training existing bankers or developing the banking profession or both. For instance, SSB and BFTB bankers can be turned into professional bankers if some training is provided.

3/ See de Rezende Rocha (1991).

4/ Estimates indicate that a "quick" transaction can take 15 days, but others take about a year.

B.3 Issues in Resource Allocation

In Bulgaria, the financial system played a very important role in sustaining the loss-making enterprises and in providing finance to the public sector. These problems are discussed in this section by analyzing the (i) credit policy and the role of the public sector; and (ii) monetary overhang and monetary policy.

B.3.1 Credit Policy and the Role of Public Sector

Until 1989, credit allocation was determined by the Financial Plan. Credit policy was determined by the needs of the non-Government (e.g., enterprises) and the Government sectors. In this section I discuss the role played by the financial system in the allocation credit to these sectors. The Financial Plan allocated the available credit by setting the credit targets, which corresponded closely to the material targets set in the State Plan. Available credit, which results from the households money holdings, was estimated in the State Plan as a residual after estimating the expenditure and the income targets. Credit was channelled to the productive sectors through the financial system and was allocated among economic sectors and banks by using credit ceilings. In addition, the authorities also used credit ceilings to allocate credit between working capital and investment loans. The financial Plan's credit targets and credit ceilings could only be modified by the Council of Ministers.

In this system, unlike the market oriented one, the authorities exerted direct control over credit allocation. Interest rates (the opportunity cost of credit) and banks' risk and return assessment played a marginal role in credit allocation. The authorities controlled credit allocation and the flow of credit to the economy through the system of credit targets and by limiting the quantity of credit. This system of credit allocation and control prevailed both before 1987, when the NBB carried out all of the lending, and after 1987, when the new banks (SCBs and CCBs) were created. After 1987, the NBB set credit ceilings by bank and each bank had credit ceilings by economic sector and by type of loan, e.g., working capital and investment loans. In this system, bankers' responsibility was limited to implementing the Financial Plan targets; they had no discretionary power. There was no reward for "good" bankers nor a penalty for "bad" bankers. Perhaps the only penalty was the removal of the bank manager.

The Socialist system of credit control and allocation was not efficient. Frequently the authorities had to overrule their own credit targets by authorizing a greater credit expansion than that envisaged in the Financial Plan. Although it is not clear when the easing of credit started, by

the late 1980s the authorities were unable to enforce discipline (hard-budget constraint) on enterprises. By then the financial system had become the supplier of finance to sustain the loss-making enterprises. The authorities encouraged indiscipline (soft-budget constraint) by making credit readily available.

Table 3: Barking System's Expansion in Net Domestic Assets 1/
(Percentage of GDP)

	1987	1988	1989	1990
NET DOMESTIC ASSETS (=1+2)	12.5	11.5	11.5	66.9
1. Net Domestic Credit (=a+b)	14.0	12.6	12.6	32.7
a. Net Claims on General Govt.	3.5	5.8	5.8	21.2
Net State Budget	-0.5	1.3	1.3	18.2
In Leva	-0.8	1.4	1.4	11.5
In Convertible Currencies	0.3	-0.0	-0.0	6.7
Extra-Budgetary Funds, Net	4.0	4.5	4.5	2.9
SCIF	3.2	4.5	4.5	1.1
other	0.8	-0.0	-0.0	1.9
b. Claims on Non-Government	10.5	6.7	6.7	11.6
Claims on Non-Financial PSE	9.4	5.6	5.6	6.7
In Leva	8.2	4.8	4.8	-2.8
In Convertible Currencies	1.2	0.8	0.8	9.5
Claims on Private Sector	1.1	1.1	1.1	4.9
Housing Construction	0.9	0.8	0.8	2.6
Other	0.3	0.3	0.3	2.3
2. Net Other Assets	-1.5	-1.1	-1.1	34.2
a. Capital Accounts	-1.1	-1.2	-1.2	-4.0
b. Valuation Adjustment 2/	0.0	0.0	0.0	39.0
c. Net Others	-0.4	0.2	0.2	-0.9
MEMO:				
Cash Public Sector Deficit (PSD) 3/	5.1	5.6	1.4	9.2
Domestically-Financed PSD	3.8	6.3	2.7	8.1

Source: National Bank of Bulgaria, Monetary Survey.

Notes: (1) This is the IMF-corrected Monetary Survey. Corrections consist of: netting Municipalities' demand deposits from Net Claims on General Government and classifying SCIF as part of Net Claims on General Government. Estimates measure the increase in end-of period (December) stocks. Estimates for 1990 are preliminary. (2) Is the foreign exchange risk assumed by banks (valuation effects and measures the effect on banks' balance sheet of devaluations in the domestic currency. On average banks have more liabilities than assets denominated in foreign currency. (3) Includes only the paid interest on foreign debt. The 1990 is a preliminary estimate.

Available estimates on the financial system's credit expansion (See estimates in Table 3.) indicate that the major borrowers from the financial system, with the exception of 1990, were the non-financial public sector enterprises (PSEs). In 1987-89, on average, total net domestic credit increased by 12.7 percent of GDP, of which credit to PSEs accounted for 7.6 percent of GDP; that is, PSEs accounted for 70 percent of total net domestic credit expansion. Although it is difficult to obtain hard evidence, anecdotal information suggests that a large proportion of the credit granted to PSEs' after 1987 was used to finance current losses. Moreover, to the extent that the authorities made credit available to PSEs, it signaled to them that undiscipline could continue and

that old loans could always be repaid with new ones.

Distribution of credit by type of enterprises, type of loan and economic sector followed the State Plan's material product targets closely (see Table 4).[5] Within the enterprise sector most credit was allocated to socialist enterprises and little to cooperatives and the household sector. On average, in 1987-89 the socialist enterprises accounted for 80 percent of total credit provided to the enterprise sector. The most important type of loans were working capital and investment loans accounting for 50 and 40 percent of total credit, respectively. Mortgages and consumer credit (household sector loans) were less important and accounted for 10 percent of total. Although this credit distribution reflected the relative importance of each sector in the economy, it also indicates the Plan's priority in allocating credit to socialist enterprises.

Table 4: Breakdown of Enterprise Credit by Type of Enterprise
(End-Period Stocks, in Billion Levs)

	1986	1987	1988	1989	Sept. 1990
I. Total Bank Credit by Type of Enterprise 1/ (=A+B+C+D)	34.9	37.3	39.8	41.7	43.8
A. Socialist Enterprises	28.4	30.3	32.5	33.9	n.a.
Working Capital	15.9	17.3	18.9	19.9	n.a.
Investment	12.5	13.0	13.5	14.0	n.a.
B. Cooperatives	2.7	2.8	2.7	2.7	n.a.
Working Capital	0.9	1.0	1.0	1.0	n.a.
Investment	1.8	1.8	1.7	1.7	n.a.
C. Non-Socialist Entities	0.0	0.0	0.0	0.0	n.a.
D. Households	3.8	4.2	4.6	5.1	n.a.
Mortgages	2.9	3.6	3.6	3.8	n.a.
Other	0.9	1.0	1.1	1.2	n.a.
Memorandum Items:					
Investment credit from SCIF 2/	--	--	2.1	4.1	5.7
Energy generation	--	--	1.0	2.0	3.3
Metallurgy and mining	--	--	0.3	0.6	0.8
Agricultural construction and irrigation	--	--	0.2	0.3	0.1
Heavy machine building	--	--	0.1	0.3	0.3
Housing industrial construction	--	--	0.1	0.2	0.3
Other 4/	--	--	0.4	0.6	0.8

Source: National Bank of Bulgaria.

Notes: (1) Differences with the Monetary Survey are explained by differences in data sources used. (2) State Investment Credit Fund.

Loans to enterprises were mostly denominated in Levs. The share of enterprises' credit denominated in foreign exchange was about 2 percent in 1986 and only increased to 10 percent in

5/ Differences in the estimates of this table and Table 3, resulted from the different sources used for their compilation. While Table 3 provides more accurate estimates of the volume of credit extended to enterprises, Table 4 illustrates its distribution.

November 1990 (see Table 5).[6] This happened even though banks also funded their lending by resorting to foreign exchange deposits and foreign exchange loans. In fact, banks like the BFTB, assumed a substantial risk by borrowing in foreign exchange and lending to enterprises in Levs. These foreign exchange loans accounted for a large proportion of the country's foreign public sector debt. In 1990, PSEs benefitted substantially because they were forgiven from the effect of a devaluation (in the official exchange rate) on the cost of serving these loans, i.e., the foreign exchange risk. The magnitude of this effect is evidenced in the large size of the item "Valuation Adjustment" (see Table 3) and in banks foreign exchange risk (see Table 5). Had enterprises assumed the foreign exchange risk, their credit stock would have increased by 44 percent of GDP. This would have had an immediate effect on enterprises' cash-flow since their interest expenses also would have increased.

While in the early-1980s enterprises benefitted from ready access to credit, in the late-1980s they benefitted from the very negative interest rates (see Table 6). In the early-1980s, as explained, enterprises benefitted from a strong supply of credit. This enabled them to roll-over their loans. In late-1980s, however, this situation changed. Enterprises start benefitting from the very negative real interest rates as a result of the increase in the inflation rate.

Table 5: Share of Enterprises Credits Denominated in Foreign Currency and Banks' Foreign Exchange Risk

	1986	1987	1988	1989	Nov. 1990
Share of Enterprise FEX Loans in Total Enterprise Loans 1/	1.8%	2.5%	2.9%	4.0%	10.4%
Banks Foreign Exchange Risk 2/	4.9	4.8	4.5	3.7	4.8
Of which: BFTB 2/	6.8	6.5	6.3	5.1	8.5

Source: National Bank of Bulgaria.

Notes: (1) FEX stands for foreign exchange. (2) Banks Foreign exchange risk is defined as the ratio of total foreign exchange deposits to total enterprises foreign exchange loans, that is, excluding General Government's FEX-denominated loans. This ratio measures the effect on banks net worth of a nominal devaluation. For instance, in November 1990 a 1 percent nominal devaluation would increase the average bank liabilities in 5 percent more than their assets, thus a fall in banks net worth (a loss) equivalent to 5 percent of their FEX-denominated liabilities.

Interest rates in Bulgaria were fixed in nominal terms for a long period and the authorities only started adjusting them in 1988. While in 1986-88 the real interest rates on credits hovered

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6/ Until 1991, however, banks' accounts understated the true magnitude of foreign exchange transactions. By law banks had to convert these transactions into lev at the official exchange rate, even though some of the foreign exchange transactions, in practice, were exchanged at the commercial exchange rate. The difference, even though a mere bookkeeping, were either covered by subsidies from the budget or, transferred to the budget as revenue from "coefficient differences." In recent years, the latter was the common practice.

between 1 percent and to 2.6 percent, they turned very negative in 1989. This was despite the authorities adjusted the nominal BIR from 4 percent to 4.5 percent in June 1988. In 1989, real interest rates on working capital and investment loans hovered between -4.2 percent and -5.7 percent and in 1990 between -35.5 percent and -36.4 percent. Therefore, the negative real interest rates became an instrument for transferring low-cost resources to enterprises. The -35 percent annual real interest rate in 1990 implied that a third of the real outstanding enterprises stock of debt was forgiven in this year.

Table 6: Real Interest Rates on Bank Credit 1/
(End of Period, in Percent per Annum)

	1986	1987	1988	1989	1990
Basic interest rate (BIR) 2/	1.3	1.3	2.3	-5.0	-36.3
Credits to socialist sector					
Investment credit	1.8	1.0	1.6	-5.7	-36.4
Working capital	2.1	2.1	2.6	-4.2	-35.5
Credits to households					
Goods and services	0.8	0.8	1.3	-5.9	-36.9
Housing	-0.7	-0.7	-0.2	-7.3	-37.8
Credits for financing state budget deficit 3/					
Short-term: State Budget	--	--	-1.2	-8.2	-38.4
Local Governments	--	--	-1.7	-8.6	-38.7
Long term					
From NBB: Old loans	--	-0.2	0.3	-6.8	-37.5
New loans in 1989	--	--	--	-5.9	-36.9
From BFTB 4/	--	-0.2	0.3	-6.8	-37.5
From SSB	-0.7	-0.7	-0.2	-7.3	-37.8
MEMO:					
Investment credit from SICF 5/	-2.6	-2.6	-2.2	-9.1	-39.0
Opportunity Cost of Domestic Credit 6/	-1.5	44.1	39.5	92.4	33.0

Source: National Bank of Bulgaria and IMF.

(1) Real interest rates were estimated using the formula: (i-p)/(1+p), i is the nominal interest rate and p is the inflation rate. (2) NBB's Loans to other financial institutions. BIR nominal interest rate was increased from 4.0 percent in June 1988 to 4.5 percent in September 1988. (3) Until June 1988 up to one month, since July 1988 up to three months. (4) Is an estimate of the real interest rate in Levs of DM deposit in the international market. (5) This is the maximum interest rate. SCIF loans to agriculture were interest free. (6) Is an estimate of the real prime lending rate in levs for borrowing in Deutsche Marks in the international market. It is defined as: (i*+E-p)/(1+p), i* is the international nominal prime lending rate on a DM loan, E is the devaluation in the parallel, exchange rate lev/DM and p is the inflation rate (consumer price index). All variables are end-period estimates.

However, until 1991 the real interest rate failed to measure accurately the true opportunity cost of credit. In Bulgaria, prices of goods, which are used to compute the real interest rates, were subject to controls. Therefore, to the extent that rationing of goods prevailed at the controlled prices, these prices understate the true price level and thus the real interest rate also understates the true opportunity cost of credit. To correct this problem, the opportunity cost of domestic credit (see Table 6) has been estimated by calculating what would have been the cost in levs of a loan

obtained from a German bank in DM. This estimate assumes that Levs were exchanged at the parallel market exchange rate. This rate indicates an increase in the real opportunity cost of domestic credit from -1.5 percent in 1986 to 92 percent in 1989, which then fell to 33 percent in 1990. Therefore, this indicates that in fact the real interest computed using the official price index understates the true gain enterprises obtained from having access to low-cost credit from the domestic financial system. The authorities, by providing enterprises access to low-cost credit, encouraged the financial indiscipline in the enterprise sector: the greater the losses the more low-cost (subsidized) credit the enterprise received.

Enterprises had difficulties paying their loans, even though they were exempted from the foreign exchange risk and real interest on loans were negative starting in 1989. Moreover, the priority sub-sectors were the ones with greatest problems. These sectors included mineral extraction, metallurgy, energy generation and agriculture. An indication of this difficulty was the 2-year general moratorium granted by the Government in 1987. This moratorium enabled enterprises to renegotiate their payment conditions with banks. Some enterprises renegotiated their loans and became creditworthy, while others defaulted on their loans and limited their access to credit from the financial system. Because defaulting enterprises were concentrated in the priority sectors, the Government started channelling credit to these sectors at preferential conditions through an extra-budgetary fund, SCIF (Specialized Credit Investment Fund). (See Table 4 for a breakdown of the credits granted by the SCIF and Table 6 for an estimate of real interest rates.) In addition, in March 1990, the Government wrote off about 2.2 billion lev of agricultural and agro-industry cooperative loans (see Table 5).

Concerning the credit allocated to the Government sector, it accounted for a significant portion of the credit expansion (see Table 3). This credit was used both for lending to enterprises through the SCIF and to finance the deficit. In 1987-89, on average, financial system's expansion in net credit to the General Government was 4 percent of GDP per annum, which represented 31 percent of total financial system's net credit expansion. However, most of this credit was used to fund the SCIF. On average, in 1987-89 credit extended to the SCIF accounted for 3.6 percent of GDP per annum. In addition, the Government also used the credit to finance its own deficit which was substantial in 1988 and 1990.

Interest rates on Government loans were even lower than those applicable to enterprise credit (see Table 6), that is, they had access to preferential rates. Real interest on Government loans started to be negative in 1988. In 1988-90, real interest rates on Government loans were between -1.2 percent and -38.7.

Starting in 1989, the authorities took measures to control credit expansion. In 1989, the banking reform authorized the NBB to impose credit ceilings on bank credit expansion to enterprises and the Government took fiscal measures to reduce the public sector deficit.[7] However, the credit ceilings were not met (credit ceiling for working capital was exceeded by 3 percent and that for investment credit in 1 percent), and the deficit increased substantially.

In 1990, most of the credit expansion was accounted for by the Government sector as a result of the public sector deficit. The non-Government sector credit expansion, which also was substantial, was accounted for by the enterprises foreign exchange losses resulting from the May 1990 devaluation and by the increase in credit to the private sector. Although credit denominated in levs to the PSEs showed a contraction (see Table 3), this was largely explained by the debt write-off to the agricultural sector.

However, the increase in the enterprises' credit stock as a result of the devaluation had a small effect on enterprises cash-flow because, as explained before, most of the foreign exchange risk was assumed by banks. But this effect was felt in banks' balance sheets. Banks would have to finance their cash-flow mis-match. This arises from the difference between low return on banks assets (denominated in Levs) and the high return on their liabilities (an important portion denominated in foreign exchange). To avoid this problem, that would have affected banks finances or the fiscal deficit or both, the authorities in March 1990 declared a moratorium on foreign exchange loans.

B.3.2 The Monetary Overhang and Monetary Policy

A key aspect of Bulgaria's financial system, has been the strong involuntary demand for money, as revealed by a high M2 to GDP ratio. It was this very high involuntary demand for money that enabled the authorities to expand the supply of credit.[8] In 1987-90, on average, demand for M2--measured as the increase in M2 as ratio of GDP--increased by 10 percent per annum, of which about 7 percent was accounted for by M1. In 1987-89, this resulted in an average M2 to GDP ratio of about 100 percent of GDP and in an M1 to GDP ratio of about 45 percent (see Table 7).

7/ These ceilings called for a freeze in nominal investment credit expansion and for a 5 percent reduction in nominal working capital credit expansion.

8/ Starting in 1987, the authorities also resorted to foreign borrowing to finance the domestic credit expansion.

In terms of maturity (see Table 7), in 1987-89 on average about 12 percent of GDP consisted of currency, 33 percent of demand deposits and the remaining 55 percent of GDP consisted of savings and time deposits. Most demand deposits are held by public sector enterprises--about 30 percent of GDP--while most of the savings and time deposits are held by households. In fact, the single most important type of deposit is savings deposits held by the household sector (chiefly accounted for by the SSB's deposits); these accounted for more than 46 percent of GDP. It is also important that most of M2 is denominated in Levs. Foreign currency-denominated deposits (in convertible and non-convertible currencies) accounted for about 10 percent of GDP. The authorities allowed deposits denominated in US dollars, in Swiss Francs or Deutsche Marks, only in January 1990.

Table 7: Composition of Broad Money 1/
(Percentage of GDP)

	1986	1987	1988	1989	1990
BROAD MONEY, M2 (=1+2+3) 2/	97.4	96.6	101.4	101.1	83.3
1. Money, M1	41.0	44.5	48.1	50.1	45.8
Currency Outside Banks	10.0	11.0	12.3	14.0	12.4
Demand Deposits	31.0	33.6	35.8	36.1	33.4
In Leva	28.6	31.1	32.9	32.5	29.6
In Non-Convertible Currencies	0.7	0.8	0.9	1.1	0.8
In Convertible Currencies	1.7	1.7	1.9	2.4	3.0
2. Quasi-Money	55.4	51.0	52.4	50.1	35.9
Time Deposits	3.7	1.3	1.5	2.3	6.4
Savings Deposits	46.7	45.1	46.3	43.1	29.1
Car Deposits	3.7	3.7	3.9	3.8	--
Other Deposits	1.4	0.9	0.5	0.7	--
Foreign Currency Deposits	0.0	0.0	0.1	0.1	0.4
3. Import and Restricted Deposits	1.0	1.1	1.0	1.0	1.6
In Non-Convertible Currencies	0.3	0.3	0.3	0.3	0.2
In Convertible Currencies	0.7	0.8	0.7	0.7	1.3

Source: National Bank of Bulgaria, Monetary Survey.

Notes: (1) This is the IMF-corrected Monetary Survey. Corrections consist of: removing Municipalities deposits from the definition of demand deposits; and re-classifying interest-remunerated savings SSB deposits as Quasi-Money (rather than as demand deposits). (2) To correct for price differences arising from computing a ratio of an end-period stock and a GDP flow at average prices, stocks were converted at average-1989 prices using the end-period consumer price index and computing its ratio to real GDP with base average-1989. Real GDP was estimated using GDP implicit price deflator.

A combination of factors make possible this high involuntary demand for money, thus leading to a "monetary overhang" problem. The two most important factors were the disequilibrium in the goods market and the small number of financial assets offered by the financial system. The disequilibrium in the goods market resulted from the authorities' policy of guaranteeing a stable income to the income earners by controlling prices of goods, the nominal exchange rate, the nominal interest rate and the nominal wage. As was explained before, the

authorities did not rely on relative prices for allocating resources; they instead used the State Plan's material product targets to allocate resources. However, the Plan's targets usually resulted in the households having to save more than they would have wanted because aggregate demand for goods exceeded aggregate supply. The small number of assets compelled households to invest their savings in these assets. They were the only ones available and they offered the highest real return, which, in turn, resulted from the authorities price control policy.

Bulgaria's high involuntary household saving rate is evidenced when compared to that of other market countries (see Table 8). In 1985-90, on average, Bulgarian households' saved about 10 percent of their disposable income, of which they invested more than two thirds in financial assets. Although international comparisons of household saving rates are risky because of the particular conditions of the Bulgarian economy, they provide an idea of the relative size if compared to high and low saving countries. While Bulgaria's household saving rates are similar to those experienced by high savers, such as Japan and Germany in the late-1980s, they are very high when compared to the low saving rates of US households.[9]

Table 8: Household Savings Ratio 1/
(In Percent)

	1985	1986	1987	1988	1989	1990
Bulgaria:	9.4	8.2	9.2	11.1	9.9	16.1
in Housing Assets	3.2	2.5	2.6	2.6	2.3	2.1
in Financial Assets	6.2	5.7	6.6	8.5	7.5	14.0
MEMO:						
Japan	16.0	16.4	15.1	14.8	15.3	n.a.
U.S.	4.5	4.3	3.3	4.3	5.6	n.a.
Germany	11.4	12.2	12.3	12.6	12.2	n.a.

Source: Data provided by Bulgarian authorities; and OECD (1990).

Note: (1) Households savings as ratio of disposable income.

Interest rates helped to channel the involuntary savings into the financial system by offering attractive yields relative to alternative savings outlets until 1986. Until 1986, interest rates on domestic financial assets were attractive compared to what a saver could obtain abroad in a deposit denominated in foreign exchange. Also until 1988, real interest rates on financial assets were only slightly negative and did not discourage savers from depositing their savings in the

9/ The involuntary high households savings rates would be more evident if Bulgaria's households saving rates are adjusted for life-cycle effects, such as are the provision for retirement and housing. In Bulgaria, unlike market economies, the provisions for retirement and housing are made by the State and, thus households do not need to save for these motives.

financial system (see Table 9).[10] In 1986, compared to what could be obtained in a foreign currency denominated-deposit (see Memo Item in Table 9), domestic interest rates offered a relatively high return on assets. By international standards, interest rates started to be uncompetitive in 1987-88, when the parallel market exchange rate started to devalue.[11] Relative to official inflation, however, interest rates only started to become very unattractive after 1988. Until 1988 depositors could find deposits which offered positive real interest rates, such as was the case of time deposits with banks. In 1989, the real interest rates on the most important deposits--savings deposits with SSB and demand deposits with banks--became very negative.

Table 9: Real Interest Rates on Bank Deposits 1/
(End of Period, in Percent per Annum)

	1986	1987	1988	1989	1990
Deposits with SSB					
Demand deposits	-1.7	-1.7	-1.2	-8.2	-38.4
Savings Deposits					
General	-1.7	-1.7	-1.2	-8.2	-38.4
Childrens'	-0.7	-0.7	-0.2	-7.3	-37.8
Housing deposits	-0.7	-0.7	-0.2	-7.3	-37.8
Enterprises deposits with banks 2/					
Demand Deposits 3/	-1.7	-1.7	-1.2	-8.2	-38.4
Time Deposits					
1-6 months	-1.4	-1.4	n.a.	n.a.	n.a.
3 Months	n.a.	n.a.	0.3	-6.8	-37.5
Over 3 months	n.a.	n.a.	1.3	-5.9	-36.9
Minimum	-1.2	-1.2	n.a.	n.a.	n.a.
Maximum	4.7	4.7	n.a.	n.a.	n.a.
Government deposits					
State budget	--	--	-1.2	-8.2	-38.4
Local governments	--	--	-1.7	-8.6	-38.7
Interbank deposits with NBB					
Demand Deposits	-0.7	-0.7	-0.2	-7.3	-37.8
Three Months' deposits	n.a.	n.a.	0.5	-6.6	-37.3
Deposits over three months	n.a.	n.a.	1.5	-5.7	-36.7
MEMO:					
Real Opportunity Cost of Holding Lev-Denominated Deposits 4/	-6.5	39.0	34.6	88.3	31.9

Source: National Bank of Bulgaria and IMF.

Notes: (1) In January 1990 authorities allowed accounts in US$ and DM. These earn 5 3/4 percent and 5 5/8 percent, respectively, for demand deposits and 6 1/4 percent and 6 1/8 percent, respectively, for time deposits of at least 1 year. (2) The NBB, BFTB, and commercial banks. (3) Until June 1988 up to one month, since July 1988 up to three months. (4) Is an estimate of the real interest rate in Levs of DM deposit in the international market. It is defined as: $(i^*+E-p)/(1+p)$, i^* is the international nominal deposit interest rate on a DM deposit, E is the devaluation in the parallel exchange rate Lev/DM and p is the inflation rate (consumer price index). All variables are end-period estimates

10/ This is consistent with international evidence on countries that experienced hyperinflation, e.g., Latin American countries. It indicates that depositors only withdraw their savings from the financial system when the real interest rate falls below a threshold and that this is between 0 and -10 percent.

11/ In relation to the DM the Lev devalued by: -8 percent in 1986; 40 percent in 1987; 34 percent in 1988; 100 percent in 1989; and in 109 percent in 1990.

The importance of the involuntary money holdings or "monetary overhang" problem is that it poses a threat to monetary and price stability. If asset holders reduce their cash holdings to their equilibrium levels, e.g., as a result of price liberalization, the monetary overhang would immediately lead to an excess supply of money and thus to inflationary pressures. Unlike other countries which experience inflation as a result of money creation (flow), in Bulgaria inflationary pressures arise both from the excess money holdings (stock of money) and from money creation (flow). In fact, inflationary pressures could result even in the presence of a tight monetary policy. The magnitude of Bulgaria's monetary overhang problem can be seen by comparing Bulgaria's money to GDP ratio with that of other developed and developing countries (see Table). Bulgaria's ratio is above those of countries with more developed financial markets, such as Germany and the U.K.; above developing countries, such as Yugoslavia and Turkey; and above countries that also have a substantial monetary overhang problem, such as Algeria and Egypt. In fact, Bulgaria's money to GDP ratio is one the highest in the world.

Table 10: International Comparison of Money to GDP Ratio
(Percentage of GDP)

	1984		1988	
	M1	M2	M1	M2
Developed:				
Germany	16.1	54.4	19.6	61.6
U.K.	14.5	39.5	36.4	85.8
Spain	21.1	62.1	25.6	67.1
Portugal	24.6	104.5	29.9	105.2
Eastern European:				
Bulgaria	n.a.	n.a.	48.2	101.6
Yugoslavia	15.5	54.1	9.1	38.2
Other Developing:				
Turkey	11.9	26.4	8.8	20.6
Egypt	31.5	65.6	22.6	59.8
Algeria	59.4	64.1	56.8	66.9

Source: IMF, International Financial Statistics; and World Bank's Economic Database.
Note: To correct for price differences arising from computing a ratio of an end-period stock and a GDP-flow estimate at average prices, stocks were converted to average-1980 prices using end-period consumer price index and computing its ratio to real GDP with base average-1980. In the case of Bulgaria average-1989 was used as a base year.

The monetary overhang problem poses a real challenge for the monetary authorities. This can be illustrated by using the quantity theory of money. Consider such an equation as,

$$V = \frac{P \times Y}{M} \qquad (1)$$

V is the actual income velocity of money, P is the price level, Y the real long-term income and M is the actual demand for money. Now consider that equilibrium demand for money is M^e which

corresponds to an equilibrium income velocity of circulation V^*, such that $V < V^*$. Therefore, the authorities' challenge is to reduce inflationary pressures of the excess money stock by stimulating individuals to (a) increase their equilibrium money holdings and reduce the equilibrium income velocity of circulation; or (b) increase the actual velocity of circulation until reaching its equilibrium.[12]

What follows is a list of the four most important measures that could be used for this purpose:

(i) **a price increase.** This would have the consequence of wiping out both the excess stock of money and the stock of real credit by inducing a reduction in real monetary holdings. This, in turn, would result in a increase in actual velocity of money until converging with the desired one.

(ii) **an increase in the real rate of return on monetary holdings.** This can be achieved by increasing the real rate of return on monetary assets or reducing the inflation rate or both. Such increase would induce savers to increase their demand for money and for financial assets (bank deposits) at the given price and income levels, thus reducing the equilibrium income velocity of money. This measure, however, assumes that demand for money is elastic to changes in the real return on assets.

(iii) **sale of public sector property.** This would cause asset holders to shift their portfolio out of monetary assets and into productive capital shares. Sale of public sector property could be public sector enterprises, but it could also include real estate property. The reduction in asset holders' money holdings would cause an increase in actual income velocity of money until converging with the equilibrium income velocity of money. In addition, the sale of public sector property to the private sector could increase the income velocity of money, if it results in an increase in real income. Such an increase in real income could result from a greater productivity of capital attained by transferring public sector property to the private sector. However, for this to happen, the sale of such property would have to be done very rapidly.

(iv) **conversion or blocking of financial assets.** Money stock could be temporarily or

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12/ This, however, presupposes that the authorities would be able to measure the extent of monetary overhang. For a very interesting method for estimating the extent of monetary overhang see, Feltenstein, Lebow and van Wijnbergen (1987). There is however an ongoing debate on the accuracy of the method to estimate the extent the monetary overhang.

permanently frozen by forcing asset holders to convert their bank deposits into a different instrument with a different maturity and payment profile--e.g., Government bonds--or, by blocking their withdrawal of such deposits. The conversion would be a temporary freeze, while the blocking could be a permanent one. These measures would have the consequence of reducing the stock of money and thus increasing actual income velocity of money until converging with the equilibrium level.

Table 11: Monetary Policy Indicators
(Percentage of GDP)

	1986	1987	1988	1989	1990
Stock of Base Money (=1+2) 1/	505.5	313.1	245.2	171.0	59.3
1. Currency in Circulation	14.1	14.1	15.8	16.7	13.1
2. Deposit Money Bank's Deposits	53.0	50.2	50.0	45.8	34.2
3. Other Deposit Money Bank's Deposits 2/	438.4	248.8	179.4	108.5	11.9
Expansion in Base Money with Public (a+b)3/		-151.5	-53.4	-52.8	-81.5
a. Currency in Circulation		2.7	4.5	3.4	6.1
b. Deposit Money Bank's Deposits		1.1	2.4	2.6	2.2
Total Revenues (=1+2) 4/		1.2	3.1	2.1	4.9
1. Seignorage 5/		1.0	3.1	-2.7	-23.2
2. Inflation-Tax 6/		0.2	-0.1	4.8	28.0
MEMO: (In Percent)					
Broad Monetary Multiplier 7/	19.3	30.9	41.4	59.1	134.8
Income Velocity of M2 8/	102.7	103.5	98.6	98.9	125.2
Income Velocity of M1 9/	243.9	224.5	207.9	199.8	240.5
End-Period Average Inflation Rate 10/		2.7	2.2	10.0	64.0
Average Annual Inflation Rate 11/		0.1	2.2	4.4	23.9

Source: National Bank of Bulgaria, Monetary Survey.

Notes: (1) Corrected for price differences as explained in note (1) in Table 7. (2) Consists of DMBs' deposits held for the purpose of the clearing system. (3) Estimated as the increase in end-period stocks. (4) Estimates the NBB's revenue from seignorage and inflation-tax levied on public money holdings. Excludes Banks' deposits with the NBB for the clearing system. It is calculated using the equation: (Dt-Dt-1-i*Dt-1)/GDPt; D is the stock of NBBs' deposits (interest- and noninterest-bearing), i is the nominal interest rate paid and GDP is the nominal GDP. (5) Estimated using the equation: (dt-dt-1)/gdp; d and gdp are, respectively, the stock of NBB's deposits and GDP at constant prices. (6) Obtained as a difference between Total Revenues and Seignorage. Includes the inflation-tax and price differential resulting from using end-period CPI for estimating the stocks at average-1989 prices and the average GDP price deflator for calculating real GDP. See Annex 1 in Thorne (1991). (7) Is the ratio of M2 to Base Money. (8) Is the ratio of real GDP to real M2. (9) Is the ratio of real GDP to real M1. (10) Estimated using the end-period Consumer Price Index. (11) Estimated using the GDP price deflator index.

Success in dealing with the monetary overhang lies in the authorities' ability to limit the effect of the excess money stock on inflation. This can be done by reducing the excess money stock using the measures mentioned before, e.g., a monetary reform. But it is unlikely that price increase would be avoided because they are necessary to correct relative price distortions. The 1940s' international experience with monetary overhang problems indicates that countries which

opted for a monetary reform also experienced high inflation rates.[13] That experience also indicates that inflation resulted because the authorities let the excess money stock feed into prices by failing to adopt anti-inflationary policies. In fact, this experience illustrated how quickly the monetary overhang problem could result in a hyperinflation. Studies on hyperinflation experience shows that it develops quickly in economies with features similar to those prevailing in Bulgaria: a monetary overhang problem, large fiscal deficits, indexation of nominal wages to past price levels, and underdeveloped financial markets.

Although until 1991, when the Stabilization Program was undertaken, the authorities lacked a clear strategy of how to deal with the monetary overhang problem, there were some important monetary policy developments that happened in the late 1980s (see Table 11). First, the authorities took measures to reduce the inflationary pressures. In late-1980s, they reduced the large inherited monetary base by improving the clearing system; and in end-1990 they introduced a 5 percent reserve requirement on bank deposits. These measures reduced somewhat the inflationary pressures by reducing the level of outstanding bank deposits (outstanding bank balances) and by reducing the money multiplier.

Second and in contrast, the authorities increased the inflationary pressures by continuing their accomodative monetary policy. The authorities continued to use the expansion in money base as a source of revenue. For instance, on average in 1987-89, NBB expanded the monetary base with the public (excluding banks deposits with the clearing system) by more than 3 percent of GDP and by 6 percent in 1990. Most of these resources were used to finance the General Government deficit.

The net effect of these two measures resulted, however, in an increase in the inflationary pressures. This was indicated by the money multiplier and the income velocity of money estimates (see Table 11). While both of these indicators improved in 1986-89 when the authorities reduced the excess base money, in 1989-90 they began to deteriorate as the inflationary pressures emerged. In 1987-89 the income velocity of M1 fell by about 20 percent, while in 1989-90 it increased by more than 20 percent. Also, as inflationary pressures grew, NBB's non-inflationary sources of revenue from money creation started diminishing and more revenue was obtained from inflationary sources. Seignorage fell from 3 percent of GDP in 1988 to -23 percent in 1990, and inflation tax increased from -0.1 percent in 1988 to 28 percent in 1990.

13/ See Dornbusch and Wolf (1990); and Dornbusch, Sturzenegger and Wolf (1990).

These inflationary pressures, in turn, affected the financial system's ability to attract savings. The increase in the rate of inflation from 2 percent in 1988, to 10 percent in 1989 and to 64 percent in 1990 undermined the ability of the financial system to attract the excess savings in the economy. The acceleration of the inflation rate made real interest rates on lev-denominated assets highly negative and reduced demand for financial assets. In 1989 real interest rates on savings deposits with the SSB fell to -8 percent and in 1990 to -38 percent (see Table 9), which, in turn, caused demand for M2 to drop from 100 percent of GDP in 1989 to 80 percent in 1990.

B.3.3 Non-Performing Assets and their Effects

The true extent of non-performing assets in bank portfolios is uncertain, although they are believed to be sizeable relative to total loans. There are two reasons that make quantification difficult. The first is the relative price distortion. The authorities would be able to quantify nonperforming bank loans only when they know the effect of the change in relative prices on enterprises' financial situation. Such a relative price change would result from introducing market forces and lifting price controls. (It is possible that enterprises whose loans appeared to be performing became nonperforming when relative prices changed and vice-versa.) Second is the deficiency in bank and enterprise accounting plans. Bank and enterprise balance sheets audited by international auditors are unavailable. Also, as explained before, the differences between the existing accounting plans and the western ones lead to loan classification problems. For instance, banks are not compelled to classify their loans according to performance, to make provisions on non-performing loans or to adjust their capital according to risk.

The importance of estimating the size of banks' non-performing assets is that it would enable the authorities to quantify the cost of restructuring the financial system. This would have an important effect on the design of a strategy for reforming and privatizing the financial system. In particular, it is important to know: (i) how much banks current losses are, i.e., what their cash-flow shortfall is; and (ii) what proportion of total assets are non-performing, or equally, what is the value of their net worth adjusted for nonperforming assets. The first question indicates the current fiscal cost to the Government of keeping these banks operating and the second indicates the fiscal cost (in net present value) of a bank clean-up. (The fiscal cost of the clean-up, however, will vary depending on the scheme adopted and on the number of years the cost is spread over.)

There are two sources of non-performing assets, both of which resulted from banks' loans granted to public sector enterprises. The first source is the enterprise loans transferred by the NBB to the commercial banks (SCBs and the CCBs). These are loans denominated in Levs. The second

source is the foreign exchange risk assumed by banks (i.e., BFTB's foreign exchange losses) when they lent to enterprises. As explained before, BFTB granted lev-denominated loans to enterprises and financed these loans by borrowing in convertible currencies. Although some more non-performing loans could have resulted from SCB lending after 1987 and CCB lending in 1990, they are believed to be small compared to the total. Moreover, since the Government (through the Financing Plan) compelled banks to grant these loans to enterprises, they are a public sector liability.

Although and for the reasons explained it is difficult to provide an accurate estimate of the lev-denominated non-performing loans, anecdotal information suggests that a crude estimate can be made by assuming that these loans were equivalent to the deposits transferred by NBB to SCBs and CCBs when they were established (see Table 12).[14] In fact, since 1987 NBB has been unable to recover these deposits from commercial banks. This became particularly evident in early-1991 when the interbank market was established and NBB had to give a special treatment to these deposits.[15] This estimate of nonperforming loans assumes that 54 percent of the enterprises loans transferred by NBB to SCBs and CCBs became nonperforming. In terms of their distribution between SCBs and CCBs, about two-thirds are accounted for by SCBs and one-third by CCBs. These represent two-thirds of total SCBs extended loans and two-fifths of CCBs.

The effect of these nonperforming loans on individual banks' balance sheets is limited because NBB's deposits are equivalent to the amount of nonperforming loans and their distribution among banks is similar to that of nonperforming loans. This is because NBB established SCBs and CCBs by transferring the same amount of loans and deposits. But nonperforming loans have an important effect on NBB's net worth and cash-flow. This is because NBB funded SCB and CCB deposits by borrowing from the SSB (through higher reserve requirements). While NBB has to pay interest on SSB loans, it might not receive payment on the interest on SCBs and CCBs deposits. This therefore, results in a central bank quasi-fiscal deficit. In fact, the worrisome effect is that it could make monetary policy endogenous because NBB can only finance this cash-flow deficit

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14/ This estimate is close to the Government's estimate, calculated by NBB's Supervision Department using commercial banks' balance sheets. However, this estimate, as ours, is subject to the problems mentioned in the text because it was done before the introduction of new banking regulation and supervision.

15/ In addition, it could be argued that commercial banks would refrain from paying back these deposits because they are guaranteeing the nonperforming loans granted by the NBB. Moreover, the implicit NBB guarantee on these deposits posses a moral hazard problem. Because banks are owned by state-owned enterprises, enterprise managers would try to maximize their benefit from the guarantee by forcing an enterprise loan write-off of the same amount as NBB deposits.

through monetary expansion.[16] This could happen if enterprises fail to service their debts with SCBs and CCBs and banks decide to finance this short-fall by running arrears on NBB deposits. Therefore, NBB will have to finance the interest shortfall by expanding reserve money.

Table 12: Estimates of Bank Non-Performing Loans in End-1990

	Total Commercial Banks 1/	Specialized Commercial Banks	Common Commercial Banks
In billion Levs	21.3	13.3	8.0
As Share of GDP	34.4%	21.4%	12.9%
As Share of Banks' Extended	53.9%	64.6%	42.3%

Source: National Bank of Bulgaria, Monetary Survey

Notes: see text for assumptions used.

The second source of nonperforming assets is bank assumed foreign exchange risk (BFTB's foreign exchange losses). Bank foreign exchange risk is defined as the sum of total net foreign exchange liabilities and total foreign exchange deposits less enterprises' foreign exchange credits.[17] Defined in this way, bank foreign exchange risk indicates the cost to banks of having assumed the enterprises' foreign exchange risk. Estimates indicate that most of this risk is accounted for by BFTB and thus, its main effect has been on BFTB's net worth and cash-flow. In general, the greater the foreign exchange risk, the lower the net worth and the greater the cash-flow shortfall. Foreign exchange risk was equivalent to about 8 percent of GDP in 1986 and increased to 39 percent in 1990 (see Table 13); and measured as the ratio of total BFTB assets, it was 23 percent in 1986 and increased to 54 percent in 1990.

Table 13: Estimate of Banks' Assumed Foreign Exchange Risk
(Percentage of GDP)

	1986	1990
Total Banks	8.0	38.9
Of which: BFTB	8.0	38.5

Source: National Bank of Bulgaria, Monetary Survey.

Notes: Ratios to GDP have been corrected as explained in Table 7. The 1990 estimate is for November. See text for the definition of foreign exchange risk.

The recent inflation rate hike starting in 1989 and the devaluation of the lev against international currencies in 1990, however, has introduced additional effects on lev-denominated nonperforming assets and foreign exchange risk. The fall in real interest rates as a result of the

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16/ This is because NBB has no other sources to finance its cash-flow deficit. NBB cannot increase further reserve requirements on SSB (it is committed to reduce them) and foreign finance is limited.

17/ Net foreign exchange liabilities are the difference of foreign exchange liabilities and foreign exchange assets, including General Government foreign exchange credits as part of the foreign exchange assets.

increase in the inflation rate has reduced the real value of commercial banks lev-denominated nonperforming assets NBB deposits and SSB reserve requirements, thus reducing the effect of these assets on NBB cash-flow. In contrast, the devaluation of the lev starting in 1990 has increased the real lev value of BFTB's foreign exchange risk and thus worsened its profitability. However, this effect on BFTB (and thus on the budget) has been unnoticed because of the Government moratorium on BFTB's foreign creditors. Its effect would depend on the conclusion of the foreign debt negotiations that is currently taking place between the Bulgarian authorities and their foreign creditors.

C. RECENT GOVERNMENT'S FINANCIAL SECTOR MEASURES

In February 1991, the Government started adopting measures aimed at correcting the financial sector problems. These measures were part of the Government's Economic Reform Program aimed at transforming the economy into a market economy which has been supported both by an IMF Stand-by and a World Bank Structural Adjustment Loan (SAL). Among the most important measures concerned with the financial sector were: the monetary and credit measures aimed at correcting the credit allocation and monetary overhang problems; and the institutional measures agreed with the World Bank in July 1991.

C.1 Monetary and Credit Measures

In February 1991, the Government started using monetary and credit measures for reducing the monetary overhang and restraining inflationary pressures. The authorities combined these monetary and credit measures with a wage policy to restrain inflationary pressures. Wages were used as a nominal anchor to control inflationary expectations during the first semester of 1991. The Government negotiated maximum nominal wage increases with trade unions and employers for the first and second quarters of 1991.

Preliminary results indicates that these measures, in concert with the other stabilization measures, were successful in reducing the monetary overhang and in controlling inflation. The fall in the ratio of M2 to GDP from 83 percent in end-1990 to 47 percent in June 1991 indicated a reduction in the extent of monetary overhang.[18] This also reduced the real stock of credit

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18/ There are however some indications that the fall in the M2 to GDP ratio overestimated the true extent of the monetary overhang. This is partly explained by the fact that the increase in the price level was greater than anticipated. Although this would need further research, one can argue that monetary policy was extremely restrictive. Nominal credit ceilings (which were calculated based on an estimated equilibrium nominal demand for money) resulted in a nominal expansion in the supply of money below what would be required for the full adjustment in relative prices to take place. In

denominated in levs, but increased the banks foreign exchange losses. The reduction in the lev-denominated credits resulted from the high inflation rate experienced in the first quarter of 1991, while the increase in the foreign exchange losses resulted from the nominal devaluation of the lev. The inflation rate and the exchange rate were then stabilized by a combination of monetary, credit and exchange rate policies. The rate of inflation after reaching 111 percent in February, fell to 56 percent in March, to 3.5 percent in April and to 2.5 percent in June 1991. In some respects these measures were more successful than other stabilizations which used the exchange rate as nominal anchor, such as the Polish program, because it stabilized inflationary expectations without having to fix the nominal exchange rate. This avoided the problem of overvaluation of the real exchange rate and its effect on export growth.

The authorities reduced the monetary overhang and controlled inflationary pressures by lifting price controls of most goods while making demand for monetary holdings more attractive. The authorities made monetary holdings more attractive by:

(i) **increasing interest rates.** In February 1991, the Government increased the basic interest rate (BIR)--the rate at which NBB lends to other banks--from 4.5 percent at end-1990 to 15 percent in January 1991, 45 percent in February and 52 percent in June 1991. The Government intends to continue adjusting the BIR periodically in line with domestic prices and the exchange rate. It has also lifted interest rate restrictions on banks' and expects them to fix their interest on deposits and loans in response to market conditions (excess demand for funds) and to changes in the BIR.[19] Although interest rates on certain types of preferential credit such as housing loans were also increased, they were fixed at below-market levels.

(ii) **issuing Government securities.** The Government started issuing bonds and treasury bills as a form of inducing asset holders to reduce their monetary holdings. In December 1990, the Government issued 1-year treasury bonds and in early-1991 it issued treasury bills. Bonds started yielding an effective interest rate of 43.7 percent per annum, and treasury bills, an effective interest rate of 31.1 percent per annum.

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fact, one can assume that in the context of Eastern Europe the initial increase in the price level is exogenous (determined by the adjustment in relative prices) and if monetary policy is too restrictive the money market would clear by adjusting income downwards. This would be the way of reducing the demand for money to the supply level. The 1991 sharp recession is evidence of this happening.

19/ To minimize the effect of the increase in interest rates on banks balance sheets, the authorities drafted an "Old Loans Law" that provides for the change in interest rates on loan contracts agreed to before February 1991. The only exceptions to this Law are the old mortgages and consumer loans which the Parliament will determine shortly.

(iii) **stimulating prepayment of consumer and mortgage loans.** The Government allowed consumer and mortgage borrowers to prepay their loans at pre-February 1991 interest rates.

In addition and as a way to control inflationary pressures, the Government imposed tight credit ceilings and increased reserve requirements. Credit ceilings provide for a maximum banking system nominal credit expansion of 15 percent between end-December 1990 and end-June 1991 and for a General Government nominal credit contraction of 16 percent between end-December 1990 and end-June 1991.[20] Expansion in credit was further reduced by increasing reserve requirements on bank liabilities from 5 percent in end-1990 to 7 percent in February 1991. These tight credit policies were reinforced by the interest rate policy. The authorities expect that high interest rates will reduce demand for credit by making credit more expensive.

Once the inflationary expectations subside, the Government expects to shift from direct to indirect monetary control by developing the domestic and foreign currency interbank markets and the market for Government bonds and treasury bills. In February, the authorities liberalized the exchange rate market, and banks were allowed to fix their buying and selling rates according to market conditions.[21] The authorities have also established a domestic currency interbank market. Since February 1991, the SSB has no longer been compelled to deposit its excess deposits with NBB,[22] and banks are allowed to borrow and lend from each other at the terms they decide. The NBB limited its credit to other banks to 20 percent of their needs. (This however excludes NBB credit used by banks to finance loans in difficulties.)

However and despite the initial success, some very important credit allocation issues have arisen. First, the General Government credit ceiling was not met as a result of the General Government difficulty in reducing its deficit and credit to the General Government expanded.[23] Second, banks have allowed enterprises to capitalize their interest on loans. This has been the result of the sharp increase in interest cost and the sharp recession. Both of these problems however have resulted in a credit allocation problem: The overall credit ceilings has been met by restraining the credit to the sectors that should be benefitting from more credit, while the sectors

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20/ The program provides for a significant reduction in the General Government budget deficit from an estimated outturn in 1990 of 13 percent of GDP to 3.5 percent in 1991.

21/ The NBB is not taking positions; it only operates as a monitoring and information agency, where banks have to report their foreign exchange positions and exchange rates offered.

22/ The NBB is negotiating the repayment of part of SSB's credits. But this is difficult because, as discussed earlier, NBB used these credits to finance commercial banks' nonperforming loans.

23/ In addition, the General Government also accumulated arrears as a way of financing its deficit.

that should be adjusting--the General Government and public sector enterprises (PSEs)--have benefitted from the credit expansion.

C.2. Institutional Measures

To address the financial system's structural issues the Government agreed with the World Bank on a two phase program. In the first phase, the Government will: (i) establish a Bank Consolidation Company (BCC); (ii) organize the merger of banks; (iii) establish a legal and regulatory framework; and (iv) restructure banks' bad loan portfolio. In the second phase, the Government will undertake a financial sector reform based on a study of the financial system to be started in 1991.

(i) **Bank Consolidation Company.** The Government will establish this company as a way of assuring direct control of state-owned banks. This measure is aimed at ending the interlocking relationship between banks and their clients, which are mostly PSEs. Every PSEs owning banks shares will exchange their shares for BBCs shares. This will apply only to banks established as joint-stock companies, thus excluding the SSB. The BCC main responsibility will be to undertake banks' mergers.

(ii) **Merger of Banks.** The BCC will merge the large number of small banks into about ten medium-size economically viable banks. Initially, the BCC should concentrate on the institutions that are unable to comply with the new prudential banking regulation.

(iii) **Legal and Regulatory Framework.** The Grand National Assembly already passed the Accounting and Central Bank Laws in April and June, respectively. In addition, the Government has already submitted to the Grand National Assembly the Banks and Credit Activity Law (Banking Law). Together these laws will provide the legal framework for the operation of the financial system. In concert, the NBB's Banking Supervision Department is adopting its supervision standards in line with market-economies' standards; and it is recruiting new personnel capable of undertaking on- and off-site bank inspections.

(iv) **Restructure of Banks' Bad Loans.** To deal with the banks non-performing loans, the Government has agreed to provide guarantees on all the non-performing loans granted to enterprises before December 31, 1990 (estimated in Leva 17 billion) plus any interest capitalized on such loans since January 1,1991. To compensate the cash-flow effect of the guarantees, the banks will be allowed to capitalize the interest on NBB deposits. However,

banks still will be responsible for collecting the guaranteed loans and will be prohibited from lending to enterprises that are in arrears with banks. Later on and based on portfolio reviews, the Government will decided the guaranteed loans that will be written off which will be covered by Government bonds.

The Government envisage banks' privatization as a gradual process. The BCC will sell bank shares to foreign parties or enter into joint ventures with foreign parties only after the merger program has been completed and after proper valuation of banks' shares. Domestic investors, in addition, will have to await that banks are financially restructured, that banks are audited by independent auditors and that NBB Supervision Department is fully satisfy that the bank in question is financially viable.

These institutional measures are in the process of implementation and although will take some time before they become operational, they constitute a step forward in reforming the financial system. The most preoccupying aspects of these measures are: (i) the pace of the reform and the role assigned to the financial system in the economic transformation process; and (ii) the proposed scheme for restructuring banks' bad loans. But Bulgaria is not the only case that has opted for these measures, these are common features of the financial systems' reforms in Eastern European countries. For this reason, in the following section I turn to the analysis of alternative strategies for reforming the financial system in Eastern Europe.

D. ALTERNATIVE STRATEGIES FOR REFORMING THE FINANCIAL SECTOR

The authorities can decide on two different strategies for reforming their financial system. Strategies differ on the pace of bank restructuring and privatization and on the method for dealing with the nonperforming loans. The objective in reforming the financial system should be to transform this system into an active instrument for accomplishing a strong supply response. In the rest of this section I focus on these issues. I discuss the objectives in reforming the financial system and two different strategies for privatizing banks and for dealing with bank non-performing loans as well as their pros and cons.

I will argue that to be effective the financial system reform strategy should combine a quick privatization of banks and a scheme for guaranteeing of the non-performing loans. This strategy should best (i) ensure efficiency in the allocation of resources. (Private restructured banks would be more efficient in allocating financial resources to the sectors that would sustain the supply response); (ii) exert greater financial discipline on banks and enterprises. (Banks would screen more

efficiently the projects and contribute to the efficiency of enterprise management.); and (iii) minimize fiscal costs. (The essence of this strategy is to minimize the use of fiscal resources. A strategy that relies on substantial fiscal resources could result in its postponement because fiscal resources would be scarce in the early period of the economic transformation.)

D.1 The Objectives in Reforming the Financial System.

The objective in reforming Eastern European countries' financial systems should be to change its role in the economy from the passive role common in centrally-planned economies, into the active role common in market economies. The financial sector reform, in combination with the enterprise reform, should lead to a strong supply response by: (i) developing an active banking system that allocates credit efficiently and exerts financial control on enterprises; and (ii) designing a scheme for dealing efficiently with banks' bad loans and minimizing their macro- and micro-economic costs. In contrast, most Eastern European countries that had undertaken a financial system reform have opted for a gradual approach and for assigning a passive role to the financial system reform in the economic reform program.

A strong supply response in Eastern European countries requires an active banking system that performs an efficient allocation of credit and exerts financial control on enterprises. Credit is a key element for enterprises to develop and respond to market incentives. Banks, as enterprises, should also respond to the changes in relative prices by allocating credit to the enterprises that would sustain economic growth, while at the same time reducing their exposure with the loss-making enterprises and enterprises that are non-viable at the new relative prices. By doing this banks would make credit available to the viable enterprises and impose a hard-budget constraint on enterprises. By allocating credit efficiently, banks would contribute to select the "good" from the "bad" enterprises and would force the "bad" enterprises into restructuring or liquidation. This would constitute a radical change relative to the role assigned to the banking system in centrally-planned economies where individual banks have no discretion in the credit allocation.

In Eastern European countries, an important contributing element for making the financial system contribute to the supply response would be to deal efficiently with banks' bad loans and thus, reduce their macro- and micro-economic costs. The existence of a large portion of bad loans in banks' portfolios could lead to credit miscallocation resulting in an increase in fiscal costs and banks failures. While the fiscal costs have important macro-economic consequences, the banks failures have important micro-economic consequences.

The existence of a large proportion of bad loans in Eastern European countries' financial system could pre-empt the overall economic transformation by leading to credit mis-allocation. In general and briefly, banks with a large portion of bad loans would tend to minimize the income shortfall that arises from holding bad loans by: (i) lending to "bad" enterprises as a way of turning their old bad loans into "good" ones and thus avoiding the need for provisioning on their bad loans. This is the well-known "evergreening of loans"; and (ii) increasing their cash-flow by engaging in more risky lending and increasing their spread between their average lending and deposit rates. This, as other countries experiences shows,[24] pre-empts the supply response because banks allocate credit to the "bad" enterprises rather than to the enterprises that would sustain growth and because it crowds-out production and investment of the "good" enterprises by increasing the cost of credit.

This behavior would result in an increase in bad loans rather than in its reduction. Because in Eastern Europe both banks and enterprises are publicly-owned, the increase in bad loans would directly result in a larger fiscal cost which would have important macro-economic consequences. In addition, the increase in banks' bad loans would eventually make banks illiquid and lead them into bankruptcy. The banks' failure in combination with the misallocation of credit would have very important micro-economic consequences. The most evident micro-economic consequence would be the credit misallocation problem referred to before, but also important would be savers' and investors' loss of confidence resulting from banks' failure.

These problems illustrate the importance of designing an efficient strategy for reforming the financial system. In particular, the pace of the bank restructuring and the method for dealing with banks' bad loans would determine the role of the financial system in the supply response and in the overall transformation process. I turn to these problems in the following two sections by discussing alternative strategies for reforming the financial system and for dealing with banks' bad loans. Also important are the establishment of a legal framework that regulates the banking activity and an institutional reform for regaining control of banks (the establishment of the BCC) but these problems were already discussed in the context of Bulgaria and do not need further elaboration.

D.2 The Pace of Bank Restructuring and Privatization

There are two alternative strategies concerning the pace of bank restructuring and

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24/ For a review of other countries' experiences see Hinds (1988), de Juan (1987) and Thorne (1988).

privatization. The first is to st..t the process of bank restructuring and privatize them only after the enterprise privatization has taken place. The second is to opt for a quick privatization of banks and link it to the privatization of enterprises. In the first alternative the emphasis is on enterprise restructuring and privatization, and banks would play a passive role. This assumes that the banking system cannot become efficient unless the enterprise problems are solved. In the second alternative the emphasis is on the role of banks in exerting a supply response and in contributing to solve the enterprise problems. It argues that this can be accomplished by quickly privatizing banks and restructuring the financial system. While in the first alternative some ad-hoc privatization agency should be solely responsible for controlling (imposing a hard-budget constraint) enterprises, in the second the privatized banks in coordination with the privatization agency would perform this role. Banks would perform this task by allocating credit exclusively to creditworthy enterprises and by participating, in coordination with the privatization agency, in the restructuring and privatization of state-owned enterprises.

Restructure banks and then privatize. This strategy is based on the contention that the true value of the nonperforming loans would only be certain when banks and enterprises are audited using western standards and when the privatization and restructuring of enterprises has taken place. Only when this has happened would the true value of nonperforming assets be apparent. The uncertainty concerning the true value of banks' nonperforming assets and thus the true value of the net worth would prevent private investors from investing in banks. But more importantly, it would become more costly for the authorities to sell banks in these conditions because if the portfolio is worse than anticipated, then the portfolio situation can worsen. For instance, other countries' experience (mainly the U.S.) suggests that when banks with large nonperforming loans are sold to the private investors, their portfolio problem worsened and the cost of cleaning the nonperforming portfolio becomes more expensive. This is because and as argued before, banks with large nonperforming loans tend to worsen the quality of their loans by lending to their bad customers and engaging in more risky activities.

Because of these difficulties, this strategy calls for bank restructuring and their privatization when the true magnitude of the nonperforming portfolio is known. This could happen in about five years. A very important component of the restructuring would be the cleaning up of the bad portfolio and some type of recapitalization. In addition, the authorities would want to merge some of the banks to reduce the number of very small banks because they might not be profitable. Regulation would allow banks to operate as universal banks. Ownership of banks would be transferred to a holding company with 100% public sector ownership participation. But banks would be run as private enterprises. During the restructuring period the authorities would work on

overcoming most of the problems that made these banks inefficient. The most important would be bringing in new management, retraining the existing management and reorganizing the banks to be able to perform efficient risk and liability management. In addition, bank restructuring would be further stimulated through new regulations and more stringent supervision.

Quick privatization of banks. This strategy, while recognizing the problems with nonperforming assets and their effect on the value of bank net worth, considers that the financial system is of great importance for accomplishing a positive supply response. This can be accomplished by segmenting the banking system into two groups of banks. A first group would be privatized quickly and would be encouraged to lend exclusively to the emerging private sector. A second group would be privatized more slowly and would be converted into investment banks. The first group would have the task of allocating credit to the private sector which will be responsible for sustaining the supply response, while the second group of banks (the investment banks) would have the task of contributing to the restructuring of enterprises. The role of the investment banks would be to make the sale of enterprises or their assets attractive to potential private investors (e.g., market-maker), while the Government agency in charge of enterprise privatization would be responsible for making operative the Goverment policies. In fact, the proposed role for the investment banks is an attempt at emulating the role of the U.S. investment banks before the Glass-Steagall Act and of the London merchant banks. It is also an attempt in emulating the successful role of German and Japanese banks in enterprise restructuring and privatization.[25]

In the case of Bulgaria, for instance, the banks chosen for privatization could be the 59 CCBs, while those chosen for conversion into investment banks could be the SCBs.[26] There are two main reasons for this. First, by selecting the CCBs for quick privatization, the authorities can quickly re-organize the financial system. This reorganization can be accomplished by merging these banks before they are privatized into five or six medium size banks. This will allow the authorities to reduce the large number of banks and increase the size of banks. But to make bank privatization more attractive to private buyers, the authorities should allow investors to decide the way banks would be merged. SCBs should be converted into investment banks because these banks can take advantage of enterprises' high dependency on them to impose financial discipline and force their

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25/ For a similar proposal see Brainard (1991). For an illuminating discussion on the role of U.S. investment banks before the Glass-Steagall Act and of the London merchant banks see Chernow (1990). For the role of banks in Germany and Japan and their role in enterprise restructuring and privatization see Mayer (1987 and 1990), Corbett (1987) and Edwards and Fischer (1991).

26/ Although we illustrate its applicability to Bulgaria, this strategy can very easily be applied to many other Eastern European countries. For instance, in Poland one could select the state-owned commercial banks for quick privatization and the specialized banks for converting them into investment banks.

restructuring. Second, the CCBs have fewer loans and evidence suggests that they have fewer bad loans as well, while SCBs hold most total and bad loans. This would minimize the immediate fiscal cost of the bank privatization strategy.

This strategy, unlike the restructure-and-then-privatize strategy, does not rely on the valuation of banks' bad loans (net worth) as a precondition for privatization. It argues that the authorities should be willing to remove all loans that the private investor would classify as not good and this should be done at the moment of privatization. By leaving only the good loans the authorities would assure a more efficient management of the privatized banks. This has been an important lesson from other countries' experiences with privatization of banks.[27] In addition, this would enable the authorities to accelerate the privatization of banks because the pricing of doubtful loans is one of the most difficult problems.

The authorities can assure a quick privatization of banks and guaranteeing the establishment of solid banks by creating an excess demand from private buyers. Banks should be offered to foreign, domestic investors or to any combination of the two. An excess demand for private banks should enable the authorities to screen private buyers and could be accomplished by limiting the number of banks and by offering incentives. Such incentives should be the cleaning of the bad loans (as explained before) and removing any excess personnel (to be negotiated with private buyers). As minimum conditions, the authorities should require the private buyers to: (i) comply with the minimum capital criteria by bringing fresh money; (ii) bring a team of experienced bankers; (iii) observe all regulations; (iv) lend exclusively to the private sector; and (v) limit their lending to bank shareholders and comply with loan concentration limits that will be established in the new Banking Law. Similar criteria can be establish for the later privatization of the SCBs.

The quick privatization of banks strategy has several advantages over the restructuring and later privatization of banks strategy. The following are the most important:

(i) more efficient allocation of credit. This would be accomplished by encouraging the privatized banks to lend exclusively to the private sector and thus contributing to the supply response. The combination of restructured banks under the control of the public sector (direct or indirect) with very tight credit policy (credit ceilings) results in very little credit allocated to the private sector. This, therefore, results in crowding out private sector supply response. This has

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27/ This is a positive lesson from the Spanish experience with bank restructuring and a negative experience in the case of the U.S. with the Savings and Loans.

been the experienced of other countries that are more advanced in their reforms such as Poland.

Three factors contribute to this happening. First, available financial resources fall as a consequence of the high inflation. Therefore, fewer resources would be available for lending. Second, most of the resources of the banks in restructuring process would be frozen in the loss-making enterprises and it would be difficult for these banks to get repaid. Moreover, new regulations imposing higher capital requirements and provisioning on loans in difficulties (not yet classified as nonperforming) would make it more difficult for these banks to recover their loans. (This is even assuming that most nonperforming loans would be removed.) If banks force enterprises to repay them, enterprises might decide to default and banks would not be able to meet the capital and provisioning requirements. But if banks continue lending to these enterprises--"evergreening their loans"--in the belief that one day enterprises would be able to repay their loans, then this would allow them to increase their profits and meet the capital and provisioning requirements. Third, the public sector would absorb most of the available financial resources either to finance their own deficit, which is difficult to control, or to finance existing preferential credit schemes.

(ii) **greater encouragement to increase financial savings.** Private banks would be more capable of regaining the trust of private savers. It is very likely that private savers would distrust the banking system because they lost most of their savings when the prices were adjusted. There is therefore a tendency for private savers to withdraw from the financial system. However, the increase of savings is a precondition for accomplishing a supply response. The savers' trust can only be reestablished by bringing private banks and changing radically the old financial system. Moreover, private banks, by bringing new management and technologies, would offer a greater range of banking services in a more competitive environment. In the privatization of banks strategy the success of private banks would depend on their ability to attract new savings.

(iii) **more efficient restructuring of enterprises.** This would be accomplished by segmenting the banking system and forcing bank specialization. First, the <u>private banks</u> would be specialized in supporting the emerging private sector and providing resources to investors willing to buy any of the enterprises or parts of them. Second, the <u>private investment banks</u> would take advantage of enterprises loans to impose financial discipline and to influence their managerial decisions. Financial discipline can be accomplished by forcing enterprises that fail to service their debt into liquidation or restructuring. Moreover, these banks can participate in enterprise privatization by, for instance, converting these enterprises' loans into equity at a discount and offering these enterprises (or some of their assets) to potential private investors. This, however, would require of

close coordination with the Government agency in charge of privatization. One advantage of this system would be to accelerate the process of enterprise privatization by avoiding the liquidation of property through foreclosures. In fact, this imitates the experience of Germany and Japan of enterprise restructuring and privatization.[28]

(iv) **more efficient risk management.** Banks run by private owners, needless to say, would be more efficient in minimizing risk and more capable of bringing in new management. This results from the fact that it would be private investors' capital which is at stake. It is arguable whether the appointed managers and board of directors of banks in the strategy to restructure banks first and then privatize would have similar behavior.

There are, however, risks in pursuing this bank privatization strategy which are important to discuss. First is the risk of banks accumulating bad loans as a result of the economic instability during the transition to a market economy. During this period there will be great confusion among enterprises and very likely some will fail.

Second is the risk of not finding private buyers for these banks. This could be because the private sector is very small or there are few experienced bankers or the private sector might not have sufficient resources to buy a bank. Moreover, it could be argued that the individuals who own the resources would not be suitable bankers because they accumulated their wealth in an illegal way. The strategy provides some flexibility by allowing both domestic and foreign investors to be buyers. If the availability of resources is the constraint, the authorities can propose some joint ventures with other domestic and foreign buyers, or they can develop a scheme that would enable potential buyers to procure the resources.

Third is the risk of private banks not finding enough creditworthy private enterprises. Perhaps this is a more serious problem because banks in the restructuring process would find difficult to assess risk and because private enterprises would have very few assets that can be used as collateral. However, the authorities could advance several schemes to minimize this problem. For instance, one is to establish a register of creditworthy private entrepreneurs that banks can easily access through direct computer lines. Also, banks can be allowed to use other assets as collaterals.

28/ This was also the experience of some U.S. banks before the 1930s, such as of the J.P. Morgan Bank. For a illuminating account of the role of this bank in the consolidation and restructuring process of U.S. firms, see Chernow (1990).

D.3 Strategies for Dealing with Bank Non-Performing Loans.

In dealing with non-performing loans there are also two alternatives. The authorities could either remove nonperforming loans from banks' balance sheets and transfer them to a new institution responsible for their collection, or provide guarantees on banks' nonperforming loans and leave them as off-balance sheet items.

Removing nonperforming loans. There are two objectives for removing completely nonperforming loans from banks. First, it avoids possible moral hazard problems. The co-existence of good and bad clients in the same bank could lead good clients turning into bad ones. It would be difficult for bankers to impose financial discipline on their good clients while allowing more flexibility to their bad clients. Second, it makes bank efficiency more transparent. Bank efficiency would depend on managers ability to manage risk and on their lending practices and not on their ability to collect loans that were provided under very different management and for political purposes. The major disadvantage is that this strategy could be very expensive because once these nonperforming loans are removed, it would be very difficult to collect them.

Guaranteeing nonperforming loans. The objectives for guaranteeing are also two. First, impose financial discipline on all borrowers and use this pressure to force the restructuring of enterprises. This can only be done by linking the bank (the investment banks) and enterprise restructuring processes. Otherwise enterprises would not be stimulated to restructure. Second, minimize the fiscal costs of dealing with the nonperforming loans. This can be done by offering price incentives to banks that collect the nonperforming loans. For instance, banks can earn a commission on the amount collected. However, this price incentive should be offered to the investment banks that become private. This would constitute an additional incentive for investors to take a portion of the nonperforming assets. The major disadvantages are the moral hazard problem and the lack of transparency in bank management.[29]

While both schemes differ in terms of the where to put the loans, they are similar in how to convert the banks bad loans into public sector debt. First, the authorities should clean up NBB's deposits that are guaranteeing SCBs nonperforming loans, and BFTB's foreign exchange losses by

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29/ This scheme differs in several ways from the one proposed by the Bulgarian authorities: (i) it only provides guarantees and does not combine them with Government bonds; (ii) it does not allows the interest capitalization on bad loans or on NBB deposits on banks; (iii) it enables banks in direct negotiation with their client enterprise to decide the portion of the loans to be written off, whereas in the case of Bulgaria the enterprise restructuring agency decides the portion of the loan to be written off; and (iv) it combines incentives for collecting the nonperforming loans with private property of banks.

substituting NBB's deposits held by SCBs and BFTB's foreign exchange losses for two types of Government bonds. The authorities should issue the first type of bonds to remove NBB's deposits held by SCBs and thus isolate monetary policy from the size of enterprises' nonperforming loans. By doing this the authorities would convert NBB's deposits held by SCBs into public sector domestic debt. The second type of bonds would be a device for transferring the public sector foreign debt held by the BFTB to the Treasury. The authorities should substitute BFTB's foreign exchange liabilities and foreign exchange losses for Government bonds. This measure would effectively transfer the cost of the foreign exchange losses to the Budget and would enable BFTB to operate like any other commercial bank.

The key difference between the two schemes would be the treatment of banks' nonperforming loans. In the option that removes all the nonperforming loans, commercial banks would transfer them to a newly-established institution specialized in collecting the bad loans. In this option banks would transfer both the nonperforming bad loans and the NBB deposits. In the option that guarantees the nonperforming loans, banks would simply shift both the nonperforming loans and NBB deposits to an off-balance sheet item. Any amount that banks collect on these nonperforming loans is then transferred directly to the budget because the Treasury already covered the NBB for the amount of its deposits.

The option that removes completely bank nonperforming loans has several disadvantages over the one that only provides a guarantee. First, a new institution would be created that knows very little about the history of these bad loans, whereas the other option would take advantage of the old bank-client relationship by leaving the bad loans with the original bank. Second, this new institution would lack banking experience. Their employees would be para-statal and lack the incentives provided by private enterprises. (In contrast, in the guarantee option, experienced private bankers would be responsible for collecting these loans). Third, the price incentive system would be absent in the option that removes the nonperforming loans. It would be difficult to establish a price incentive system in a para-statal institution, whereas in the guarantee option price incentives would play a key role in encouraging the collection of bad loans.

E. CONCLUSIONS

In this paper I have described and analyzed the problems confronted by Eastern European countries and offered some alternatives for their solution. I have illustrated these problems by analyzing the Bulgarian financial system. In the description of the condition of the financial system the importance of the inherited problems is apparent, which makes the reform of the financial

system particularly difficult. The Bulgarian authorities have attempted to correct the short-term problems, but most of the identified structural issues remain. Correction of these issues requires an overall reform of the financial system. The best way to correct these problems is by opting for a quick privatization of banks and linking the bank and enterprise restructuring processes. The advantage of this strategy is that it would foster the needed supply response.

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ANNEX 1: A NOTE ON FINANCIAL DATA PROBLEMS

The paper's analysis is based on banks' reported balance sheets and financial statements. However, as is recognized in Bulgaria, these data are subject to several flaws which arise from:

(i) **differences in accounting plans.** Banks accounting plans in Bulgaria are different from those in western countries. This raises the issues of classification and interpretation. Presently, in Bulgaria, there are three different accounting plans: one for the National Bank of Bulgaria (NBB); another for the Bulgarian Foreign Trade Bank (BFTB); and another for the Commercial Banks. These differences, no doubt, caused the poor quality of the data.

(ii) **asset and liabilities valuations.** Assets and liabilities valuation is another source of problems, as it introduces distortions in bank balance sheets. It is particularly a problem with fixed assets, loans and foreign currency operations. Fixed assets, e.g., real estate, have experienced a surge in prices which is unaccounted for in bank balance sheets; banks are carrying a large proportion of nonperforming loans which are not provisioned for; and foreign currency operations are valued at the official exchange rate while such transactions take place at the more depreciated commercial exchange rate. In addition, banks hold substantial volumes of unsettled assets and liabilities due to delays in the clearing system. These unsettled assets and liabilities have had the consequence of overstating the true size of bank balance sheets.

(iii) **macroeconomic distortions.** Macroeconomic distortions consist of price, interest rates and exchange rate controls. These controls affect bank balance sheets and financial statements by distorting assets and liabilities' true value.

In cases where data is weak, I avoided comparisons with other countries or refrained from using the data, and in cases where sources of problems were known, I made corrections. Conclusions based on this data should be regarded as preliminary and further verified when more robust data is available.

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