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BANKING IN THE BULGARIAN ECONOMY



BULGARIAN NATIONAL BANK

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**BANKING IN THE
BULGARIAN ECONOMY**

Revised edition

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Preface to the First Edition

In 1991 the University of Delaware-Bulgaria Coalition, with the support of the United States Agency for International Development, began a program of economics education for Bulgarians. One of the persistent difficulties that I and my fellow economists have faced as we sought to be effective teachers of Bulgarian students and helpful observers of the Bulgarian economy was the absence of summary materials that capture the specific detail of the Bulgarian economic system. This monograph seeks to temporarily fill the gap regarding the banking system of Bulgaria¹. Because of rapid changes as Bulgaria transitions to a market economy, it is not possible to be entirely current. The institutional arrangements described are those which existed in Bulgaria during the winter of 1992 – 1993.

Our intended audience is two-fold. First are teachers and students of money and banking, who might use this discussion to supplement western textbooks on the subject. Second are interested observers of the Bulgarian economy who are already well versed in market economics. No attempt is made here to explain standard concepts in money and banking, but rather to place the Bulgarian variation within the standard context and vocabulary.

Research for this project began in the autumn of 1992 as a class exercise of the Advanced Economics Program. The final class assignment for students in the money and banking course was to investigate a specific aspect of the Bulgarian banking system. This monograph is an integration and embellishment of the papers that resulted from their research.

I am indebted to the following program participants who contributed to the manuscript: *Svetlana Alexandrova, Anna Andonova, Kamen Atanassov, Tzvetan Bonev, Georgi Cholakov, Stoyan Iliev, Roumiana Ilieva, Jordan N. Jordanov, Jordan V. Jordanov, Dimitar Kanev, Hristo Mavrov, Anastassia Miteva, Anton Pashov, Nedialka Petkova, Lambrin Shpatov, Valentin Vulov, Plamen Yossifov.*

In addition to contributing a participant paper, Plamen Yossifov was a research assistant on the project. Virginia Miller wrote Chapter II and

¹ *The first edition of the monograph was under the title “The Bulgarian Banking System.”*

edited the entire monograph. Special thanks are due to Andrew Kenningham who supervised the project, commented on an earlier draft and was invaluable in identifying bankers and central bank personnel who contributed important information.

Lubomir Christov, Chief Economist, Bulgarian National Bank, provided extensive comments on an earlier draft. Mary Susan Rosenbaum, Senior Economist, Federal Reserve Bank of Atlanta, provided a visitor's perspective.

As can be seen, this monograph owes much to many. The remaining errors, however, are the sole responsibility of the author.

Preface to the Revised Edition

The Bulgarian banking system continues to change as the transition toward a market economy proceeds. This second edition of the book has been extensively revised to keep it current with the evolving set of institutions that define the financial sphere in Bulgaria. This edition has also been expanded to present important aspects of the financial system which received only cursory attention in the first edition. The most important addition is a more complete description of the activities of the Bulgarian National Bank and a discussion of the Law on Settlement of Nonperforming Credits.

This new law was passed after the first edition was published. In addition, the money multiplier formula has been revised to take more explicit account of the effect of foreign currency activities within the country.

This edition also benefits greatly from the addition of a new author: Stefan Petranov.

We are indebted to Harry Hutchinson, emeritus Professor of Economics, University of Delaware. Not only was he an inspirational colleague for many years, his fine money and banking text, *Money and Banking and the U.S. Economy*, served as a model upon which the structure of this monograph has been built. Several people provided guidance and help. We would especially like to thank Stan Shumway who gave generously of his time in helping us think through several knotty problems. Lubomir Christov gave much encouragement, reviewed the entire monograph and provided additional help.

Special thanks are due to the staff at the Bulgarian National Bank who

agreed to support this project with time and input. Deputy governor Mileti Mladenov, especially has provided wonderful support and encouragement. Zdravko Balyozov, head of Economic and Monetary Research Department, improved the precision of the text with crucial comments. Violeta Peicheva, Sonya Peeva and Alexander Michailov were also very helpful providing us with better understanding for the Bulgarian banking system.

Financial support for this edition came from several sources. The United States Agency for International Development through their grant to the University of Delaware continued to provide support. The project would not have been possible without a “Twinning Grant” from the National Research Council (USA). The Bulgarian National Bank assisted in translation and publishing costs.

The second edition also owes a great deal to many people, but the authors take responsibility for any remaining errors.

Monetizing the Bulgarian Economy

If capital is at the heart of capitalism, then well-functioning capital markets are at the heart of a well-functioning capitalist economy.²

J. Stiglitz

While all economies must organize production and distribute the output of production among members of society, the institutions which produce and distribute commodities are very different in centrally-planned economies (CPEs) and capitalist economies. As Bulgaria has transitioned from a CPE to a capitalist economy, many financial arrangements have been dramatically altered.

One essential difference between the two systems is the importance of money in capitalist economies. In a capitalist economy *money buys goods*. When money buys goods, resources are directed towards those economic agents – enterprises or consumers – who have money. This contrasts sharply with the situation in a CPE where the role of money is much more limited. Inputs to enterprise production are determined not by the money which the enterprise has, but rather by central planners. Even in the area of retail sales where money is more commonly used in a CPE, money is less important than it is in a capitalist economy. Who obtains goods and services is often determined by non-monetary criteria. In a CPE having money does not necessarily mean that an individual can purchase a good.

Prices were released, or freed, in Bulgaria in February 1991. Suddenly money bought goods. The economy was “monetized,” although not without creating serious stress as the new role of the money was superimposed on old practices. Two transition problems are of special importance. The first has its roots in the different incentives for household saving and consumption that arose when the economy was monetized. Because money had not been particularly useful for purchasing goods in the CPE, many people had saved large sums. When goods could finally

² This chapter draws heavily on Stiglitz's (1992, p.161) description of the institutional requirements for development of capital markets during the period of transition.

be purchased with money, this “monetary overhang” created a large demand for the existing supply of goods. The sharp increase of prices that ensued generated an inflationary environment which remains a problem four years later. The second problem is in the production sector. Under central planning financial statements, framed in monetary units, were used to account for firm inputs and outputs. Useful as these financial statements might have been to the central planners, they did not play a direct role in allocating resources to firms since money could not be used to purchase goods. If enterprises needed additional credits to account for the goods allocated to them under the plan, the credit was advanced. The difficulty which has arisen is that this old governmental practice of providing additional credits has persisted although the function of money changed when the production sector became monetized. Now when money is advanced to enterprises in the form of loans, it can be used to purchase inputs or pay wages so that scarce inflationary resources are being allocated in the process. However, the money is often advanced without sufficient evaluations of the creditworthiness of the enterprises, so there is great risk that financial resources are not being directed towards the most productive activities. When enterprises which are inefficient receive loans, as is true in many cases, valuable resources are being wasted.³ The Law on Settlement of Nonperforming Credit, which was passed at the end of 1993, was an attempt to manage these loan problems created after the transition began.

As these examples illustrate, with the change in the role of money must also come a redefinition of the whole set of financial arrangements and practices that support a monetized economy. Stiglitz (1992, p. 163) lists eight functions that must be performed by financial institutions in a market economy:

- 1) Management of the medium of exchange;
- 2) Transferring funds from savers to investors in new economic production;
- 3) Pooling small amounts of savings so that larger projects can be undertaken;
- 4) Choosing among projects so that the most productive projects receive the most support;

³ *In many instances there are important political reasons for this. Having many enterprises fail suddenly due to lack of credit would cause serious economic disruption.*

- 5) Monitoring the use of funds so that they are used in the intended way;
- 6) Enforcement of loan contracts so that the loans are repaid;
- 7) Definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken;
- 8) Lowering of risk by creating methods for diversification of investment risks.

None of these functions was performed by the financial system before. Since money did not buy goods, even the management of the medium of exchange, the first function, was done differently. The other seven functions involve investment decisions, which were made by central planners using very different criteria than the evaluation of risks and profits. In creating its financial system, Bulgaria is faced with the challenge of creating institutional *structures* that will perform these necessary *functions*.

Although the functions of financial systems are consistent across capitalist countries, their structures vary significantly. For example, German and Japanese banks are tied much more closely to nonfinancial firms than in the United States. This reflects both cultural and historical differences. During this stage of the transition, important choices are being made about the design and structure of financial institutions, but, as has been true in other places, history does matter. Choices today are constrained by serious problems which must be overcome during the transition. These choices will influence the initial shape of these financial institutions, and once these institutions are established, their design will, in turn, influence future decisions.

The development of a financial sector in Bulgaria began with reform of the existing banking system. What was initially a monolithic bank was broken up into two tiers – a central bank and commercial banks. Loans and accounts of state enterprises were distributed among the new commercial banks. Under central planning all savings accounts of individuals were held at the State Savings Bank. This changed so that commercial banks were allowed to accept deposits. While these changes created a structure that superficially looks like the banking systems in capitalist economies, more fundamental changes are required before this system can successfully perform basic capital market functions.

At this point, it is time to retrace our steps. We shall first expand the discussion of the structure of financial institutions to which we have al-

luded by outlining the two-tier banking system as it is now codified in Bulgaria. This is done in Chapter II and Chapter III. We have said that the Bulgarian economy is monetized, but have not discussed the formal Bulgarian definitions of money, an omission that will be corrected in Chapter IV. Many of the terms defined in the discussion of the money supply measures will be useful in Chapter V, where we shall explore the activities of commercial banks as seen through the framework of their consolidated balance sheet of assets and liabilities. Then we shall turn to the important issues of how Bulgarian institutions perform the functions required in a capitalist economy. In Chapter VI we derive a formula for determining the size of the money supply. This is followed in Chapter VII by discussion of the tools available to the BNB to control the money supply and the supply of credit in the economy. Chapter VIII describes the bad loan problems which arose as the system was transformed from central planning to a market system and how the Law on Settlement of Nonperforming Credits (LSNC) was designed to manage the problem. In conclusion, we shall briefly turn once again to Stiglitz's functions of a financial system to assess the progress of Bulgarian financial institutions in performing their new roles in a market economy.

The Structure of the Commercial Banking Sector in Bulgaria

This essay began with Stiglitz's observation that "if capital is at the heart of capitalism, then well-functioning capital markets are at the heart of a well-functioning capitalist economy." In this chapter we provide an overview of the most important features of the banking sector of the Bulgarian economy. The reform of the financial system began with the recreation of the commercial banking system. Commercial banks continue to be the most important financial institutions.

While we will focus on the banking sector in this chapter, it should be noted that there are also other financial institutions which are now playing an ever more significant role in the Bulgarian economy. Financial institutions are typically divided into two groups: financial intermediaries and other financial institutions. Financial intermediaries are institutions that accept money from savers and lend money to debtors. In Bulgaria financial intermediaries include the commercial banks, the State Savings Bank (which has a more specialized purpose than the commercial banks), the State Insurance Institute and private insurance companies.⁴ According to the law commercial banks can have full or restricted license which allows them to operate internationally or only within the national boundaries. Other financial institutions include financial and brokerage houses and foreign exchange offices. Financial houses help broker trades but are not allowed to take deposits and give loans. Foreign exchange offices are only allowed to trade in foreign currency.

Financial markets have also appeared as part of the financial system. These include foreign exchange markets, markets in government securities, the interbank deposit market (which helps banks borrow from one another) and stock exchanges where shares of private and state-owned companies are traded. The most important financial market in Bulgaria is the foreign exchange market. More than 500 firms now have licenses to

⁴ Also operating outside the area of licensed financial institutions have been pyramid schemes. In the summer of 1995 several of these pyramid schemes collapsed causing great pain for many people. These events have generated interest in seeking additional regulation of these operations.

operate as foreign exchange bureaus. Recently the market in government securities has also grown significantly. The interbank deposit market has helped banks transfer funds between one another. These last two markets require a more detailed description of the monetary system so will discuss them in more detail in a later chapter. The stock exchanges are still very small and their role in the economy is not significant as yet. At present, there are 12 stock exchanges registered⁵ each of them having different rules. Trade volumes are very low and the number of traded companies is small⁶. As a result of the low trade activity three of the stock exchanges⁷ have already stopped functioning. The significant share of trading is concentrated on two exchanges, i.e. First Bulgarian Stock Exchange (75% of total trading volume) and Sofia Stock Exchange (10% of total trading volume).

On June 29, 1995 the National Assembly passed the Law on Securities, Stock Exchanges and Investment Companies. The Law regulates the establishment of stock exchanges and security trading. According to the Law, stock exchanges, investment brokers and investment companies are regulated and supervised by an authorized state body – the Commission on Securities and Stock Exchanges. Due to technical obstacles, the establishment of the Commission is still forthcoming which in turn delays the application of the Law. As a result, a considerable decline in trading volume is recorded.

The Recreation of Commercial Banking

During most of the communist era all banking functions were the responsibility of the Bulgarian National Bank (BNB), which had absorbed through the process of nationalization all existing commercial banks. The BNB was under the direct control of the Council of Ministers. Besides the BNB there were only two other banks: the State Savings Bank, which

⁵ *First Bulgarian Stock Exchange, Sofia Stock Exchange, Plovdiv Stock Exchange, Black Sea Stock Exchange, Rousse Free Stock Exchange "Dunav," Veliko Turnovo Stock Exchange "North", Varna Stock Exchange, "Balkan Stock Exchange" – Stara Zagora, Pleven Stock Exchange, Bourgas Stock Exchange, Sliven Stock Exchange, Pernik Stock Exchange.*

⁶ *Securities of about 15 – 20 companies, financial institutions mainly, are listed on the stock exchanges. In 1995, the composition of the trading volume of listed companies was as follows: about 80% shares of banks, 10% shares of nonbanking financial institutions, and 10% of other companies.*

⁷ *Pleven, Bourgas, Sliven.*

was the only bank permitted to hold the accounts of individuals, and the Bulgarian Foreign Trade Bank, which handled all foreign exchange operations for the country. In 1981 Mineralbank was created with the specific purpose to extend credits to small and medium-size enterprises. In 1987 seven specialized or sector-specific commercial banks were formed, each restricted to lending long-term credits in a particular area such as the chemical industry or transportation.

At the end of 1989 a major institutional reform took place in the banking system as it moved to a two-tier system with a central bank on one tier and commercial banks on a second tier. The sector-specific banks were transformed into banks which loaned to all sectors of the economy. Additional commercial banks were created from the 59 branches of the BNB.

Many of these new banks were small. As the reforms progressed, there has been extensive restructuring of the banking system. The Bank Consolidation Company was formed to encourage the formation of larger banks through merger. At the same time, state-owned banks are being consolidated, new private banks, including some foreign banks, are opening offices. New private nonbank financial institutions are also entering the market. They are competing with banks by providing specialized services. The commercial banks still dominate the financial services industry, but as time passes the importance of nonbank financial institutions will continue to grow.

In June 1991 the Law on the Bulgarian National Bank came into effect, altering fundamentally the roles, objectives and functions of Bulgaria's central and commercial banks. This Law set the stage for the redefinition of roles and responsibilities in today's two-tier banking system. In March 1992 the Law on Banks and Credit Activity was adopted. This Law established the regulatory framework for the activities of banking institutions. Since the passage of this law all banks, even state-owned banks, have operated with significant autonomy. As further reforms have proceeded, decision-making in the financial sector has become increasingly driven by market forces.

From 1991 to 1994, bank assets have been shrinking in relative terms as measured by growth of both the money supply and nominal GDP. As Table 2.1. illustrates, bank assets (of the commercial banks and the State Savings Bank (SSB)) have grown only 131.5% while the money supply (measured by M2) has grown 277.4%, and nominal GDP has grown 300.4%.

Table 2.1. Bank Assets, Money Supply and Nominal GDP

	1991	1992	1993	1994
Bank Assets	462.8	582.3	809.5	1071.7
Growth Rates (%)		25.8	39.9	32.4
Money Supply, M2	108.4	164.7	229.9	409.1
Growth Rates (%)		51.9	39.6	77.9
Nominal GDP (billion BGL)	135.7	200.8	298.9	543.4
Growth Rates		47.9	48.8	81.8

** Year-end figures in billions BGL, Source: BNB Annual Report.*

In addition to the competition coming from nonbank financial institutions, there is also growing competition among the commercial banks themselves due to entry of new banks. Table 2.2. shows the number of commercial banks (and the SSB) for 1991 through 1994.

Table 2.2. Number of Commercial Banks

	1991	1992	1993	1994
Large Banks	3	4	7	10
State	3	4	6	9
Private	0	0	1	1
Small and Medium Banks	75	76	33	28
State	69	65	18	6
Private	6	11	15	22
Savings Banks (SSB)	1	1	1	1
Foreign Banks	0	0	0	0
Total	79	81	41	41

Source: BNB and Association of Commercial Banks (ACB).

The number of banks is declining, but this is entirely due to consolidation of state-owned banks, not exit. Meanwhile, the number of new private banks is constantly growing. By the end of 1994 there were already 22 private Bulgarian banks. At the same time, the number of large banks is increasing.

Foreign bank presence is still small. At the beginning of the reform foreign banks were not permitted to open branches in Bulgaria. However, by 1994 two foreign banks had opened branches – the Greek “Xios” and the Dutch “ING BANK.” In 1995 two additional foreign banks, the BNP – Dresdner and the Ionian Bank also opened branches.⁸ At the present time, foreign banks have a specialized and restricted pro-

⁸ *There has also been foreign equity capital in some banks.*

file and are focused on serving international business customers. None are engaged in the full range of banking activities⁹. Given their comparative advantages with respect to prestige, reliability, international contacts, and experience, they are clearly in a position to exert substantial competitive pressure on Bulgarian banks. An important policy question that must be faced is how much entry of foreign banks will be permitted. The advantage of a large foreign bank presence is that Bulgarians can learn new skills by working in branches of foreign banks. Furthermore, Bulgarian banks can learn from the example set by foreign banks. On the other hand, Bulgarian banks will need time before they are fully able to compete with foreign banks. The present policy seems to be one of permitting foreign banks to establish branches as long as the foreign banks limit their activities to specialized services.

Structure of the Banking Sector

Competition within an industry is often gauged by the degree of concentration, especially among the largest firms in an industry. Competition is considered to be greater if there are more firms and they are of approximately equal size. The Herfindahl Index and the four-firm concentration ratio are commonly used measures of industrial concentration.¹⁰ Table 2.3. provides several measures of concentration for the Bulgarian banking sector. The Herfindahl Index and the concentration coefficients are calculated for three measures of bank size: (1) total assets, (2) claims on nonfinancial institutions, and (3) attracted resources from nonfinancial institutions and other clients.

⁹ It should be noted that there is no legal constraint that prevents foreign banks from competing on domestic financial markets. Foreign banks enjoy equal treatment with domestic banks. Indeed they have some advantages since they do not have to meet special capital requirements when they open branches in the country.

¹⁰ The Herfindahl Index is given by the formula: $H = \sum s_i^2$ where s_i is the share of the industry of firm i . The index reaches its maximum value of 1 for a monopolist.

Table 2.3. Measures of Concentration in the Banking Sector

	1991	1992	1993	1994
Bank Assets				
Herfindahl's Index	0.38	0.33	0.30	0.15
Concentration coefficient (%)	80.9	77.2	73.4	60.3
Claims on nonfinancial institutions				
Herfindahl's Index	0.18	0.19	0.24	0.24
Concentration coefficient	69.2	64.5	66.0	63.0
Attracted Resources from nonfinancial institutions and other clients				
Herfindahl's Index	0.15	0.15	0.15	0.13
Concentration coefficient	66.2	59.2	57.3	54.7

Source: BNB, ACB and authors' calculations.

With respect to banks' assets the Herfindahl Index shows a constant decline throughout the entire period, which is an indicator of a constant trend toward a more even and balanced distribution of assets among banks. The decline is especially strong in 1994. The trend toward increasing competition is also consistent with the dynamics of the concentration coefficient which decreases over time.

Claims on nonfinancial institutions show some contradictory trends. The four biggest banks have lost some of their market position, but the Herfindahl Index rises. This suggests that greater concentration is occurring but below the level of the four largest banks. This is an area where major changes have taken place because of the Law on Settlement of Nonperforming Credits. Under this Law, banks have been able to substitute government debt for nonperforming state enterprise loans. Large state banks have been major participants in this program.

Attracted capital from nonfinancial institutions and other clients rises in nominal terms from BGL 114.8 billion to BGL 405.5 billion, or by 253.2% over this period. This was less than the inflation so in real terms there was a decline. The Herfindahl Index is relatively stable dropping slightly at the end of the period while the concentration coefficient declines throughout. With real deposits shrinking in real terms competition has been strongest in this area. In addition to providing improved services to enterprises, banks have also tried to attract deposits from households. This market segment is still dominated by the SSB which holds about one-third of all deposits, but the SSB has been losing some of its market share with the rapid expansion of branch systems created by other banks.

Table 2.4. shows the relative shares of the different groups of banks in three categories: total assets of the sector, claims on nonfinancial institutions and other clients and in attracted resources from nonfinancial institutions and other clients.

Through merger and consolidation the structure of the sector is changing dramatically. In spite of the growing number of large banks, their share of total assets declined. In 1993 and 1994 a private institution, First Private Bank, doubled its total assets and became the first private bank to join the group of large banks. Two groups of banks are now emerging. One group is large state-owned banks and First Private Bank. This group holds 71.1% of the assets of the banking system, 79.9% of the loans to the real sector and 51.4% of the deposits of households and enterprises.¹¹ All the other small- and medium-size banks, although quite numerous, hold only about one-sixth of the market.

The private sector is also gaining an increasing share. At the end of 1991 private banks held only 1.5% of bank assets, 1.5% of loans to the real sector and 3.9% of deposits. By the end of 1994, these figures were 15.4% of bank assets, 19.4% of loans to the real sector and 18.4% of deposits.

Bank refinancing where the BNB provides loans to the banks can also be viewed as an indicator of both competition among banks and the orientation of the banking sector toward market principles. Dependence on large scale refinancing by the BNB decreases the level of competition for financial resources and slows down the development of the money market and markets for other financial instruments. When the banks cannot depend on refinancing, they must look to the private market for funds. This will lead to expansion of trade on the interbank money market, where the banks make loans to one another, and greater competition for deposits from households and enterprises.

Table 2.5. compares the growth rates of bank refinancing, enterprise deposits at banks and loans to the real sector.

¹¹ *If the State Savings Bank is added to this group, the concentration levels are even greater.*

**Table 2.4. Relative Shares of Groups of Banks in Total Assets
Claims on Nonfinancial Institutions and Attracted Resources
from Nonfinancial Institutions and Other Clients**

(%)

1991					1992			
	Nb	Total Assets	Claims on Nonfin. In.	Attracted Resources	Nb	Total Assets	Claims on Nonfin. In.	Attracted Resources
Large Banks	6	77.76	71.36	43.08	8	74.80	71.94	35.92
State	6	77.76	71.36	43.08	6	72.27	67.94	29.60
Private	0	0.00	0.00	0.00	2	2.53	4.00	6.32
		0.00	0.00	0.00		0.00	0.00	0.00
Small and Medium Banks	72	14.48	21.85	28.00	72	14.93	22.11	28.33
State	66	12.96	20.30	24.13	63	13.36	19.75	26.22
Private	6	1.52	1.55	3.87	9	1.57	2.36	2.11
		0.00	0.00	0.00		0.00	0.00	0.00
Foreign Banks	0	0.00	0.00	0.00	0	0.00	0.00	0.00
		0.00	0.00	0.00		0.00	0.00	0.00
SSB	1	7.76	6.79	28.91	1	10.27	5.95	35.75
		0.00	0.00	0.00		0.00	0.00	0.00
Total	79	100.00	100.00	100.00	81	100.00	100.00	100.00

1993					1994			
	Nb	Total Assets	Claims on Nonfin. In.	Attracted Resources	Nb	Total Assets	Claims on Nonfin. In.	Attracted Resources
Large Banks	13	81.61	85.04	53.17	15	78.47	89.27	60.14
State	10	77.22	77.71	44.30	11	69.61	76.98	48.99
Private	3	4.39	7.33	8.87	4	8.87	12.28	11.14
		0.00	0.00	0.00		0.00	0.00	0.00
Small and Medium Banks	27	7.33	10.17	11.63	23	7.74	7.82	8.86
State	14	3.74	4.37	6.61	4	1.17	0.76	1.51
Private	13	3.59	5.80	5.02	19	6.57	7.06	7.35
		0.00	0.00	0.00		0.00	0.00	0.00
Foreign Banks	0	0.00	0.00	0.00	2	0.06	0.00	0.03
		0.00	0.00	0.00		0.00	0.00	0.00
SSB	1	11.05	4.78	35.20	1	13.73	2.91	30.98
		0.00	0.00	0.00		0.00	0.00	0.00
Total	41	100.00	100.00	100.00	41	100.00	100.00	100.00

Table 2.5. BNB Refinancing, Attracted Resources and Claims by Banking Sector

	1991	1992	1993	1994
BNB Refinancing	18.8	15.7	22.7	36.4
Growth rates (%)		16.7	44.4	60.4
Attracted Resources from nonfinancial institutions and other clients	114.8	147.1	221.6	405.5
Growth rates (%)		28.1	50.6	82.0
Claims on nonfinancial institutions	164.4	218.6	281.3	434.5
Growth rates (%)		32.9	28.7	54.4

Source: BNB Annual Report.

For the entire period of 1991 – 1994 refinancing by the BNB grew by only 92.8%, as compared with an increase of 253% in enterprise deposits and a 164.3% increase in credits to the real sector. Furthermore, by the end of 1994, 77% of the total refinancing of commercial banks was concentrated in two banks, Economic Bank and Mineralbank, which required emergency support due to liquidity crises. Thus, after an initial period during which the commercial banks had to rely on refinancing, the role of refinancing has been declining. Refinancing is now used more for emergency measures where it can be directed to solve specific problems facing individual banks.

Competition in the banking sector can have different dimensions. The range of financial services provided by the banks has increased significantly. For example, some banks have abandoned the ordinary deposit terms (1, 3, 6, 12 months) and are now offering deposits with unspecified maturity. “Demand deposits” are also being offered, having various terms of advance notice. Deposits offering preferential conditions for different groups of clients (retired, students, etc.) have also been introduced. From the beginning of 1995 some private banks started to offer insured deposits.

On the other hand, price competition has been weak. Although banks have abandoned their joint interest rate policy, in 1994 the differential between the interest rates on credits and deposits has widened. This spread reflects the difficult situation in which some big state-owned banks find themselves. But new private banks have not chosen to compete by narrowing the spread. Instead the competition has been directed toward offering new services.

During the period of 1991 – 1994 the banking sector has changed in

many aspects. Numerous new institutions entered and the sector has become more competitive and more market oriented, but there are still important factors which hinder competition. Large state-owned banks burdened with bad debts still dominate the sector. The market for various financial services is still segmented, and the competitive pressure from foreign financial institutions is still weak.

In this section we describe the responsibilities of the Bulgarian National Bank (BNB) and present the balance sheet. Reviewing the balance sheet gives us an opportunity to describe the operations of the BNB.

The Responsibilities of the Central Bank

The role of the Bulgarian National Bank is limited to central banking and supervision functions. The BNB has been given three mandates¹²:

- (1) The main task of the Bulgarian National Bank shall be to contribute to the maintenance of the internal and external stability of the national currency. For this purpose, it shall formulate and implement the national monetary and credit policy and shall contribute to the creation and maintenance of efficient mechanisms of payment.
- (2) The Bulgarian National Bank shall have the exclusive right of issuing banknotes in this country.
- (3) The Bulgarian National Bank shall regulate and supervise other banks' activities in this country for the purpose of ensuring the stability of the banking system.

Maintaining an Internally and Externally Stable Currency: In the first statement, the BNB is given its most important and most difficult charge. Because the chapters which follow will discuss in detail the mechanisms used by the central bank to manage the money supply and to clear and collect payments, our comments here will be brief. It is useful, however, to highlight at this point the emphasis given in the Law on both "the internal and external" nature of the task. Internal and external stability are related but independent tasks. They are the prerequisite for Stiglitz' first function, management of the medium of exchange, that must be performed by financial institutions in a market economy.

Internal stability is typically achieved when inflation is controlled by manipulation of credit and the money supply and when the currency is accepted as the medium for transactions. In a move to support the lev as the internal medium of exchange, the Council of Ministers passed in February 1991 Ordinance No. 15, which prohibited the use of foreign cur-

¹² Article 2, Section I, *Law on the Bulgarian National Bank*.

rency in internal transactions. More important to the viability of the lev for internal transactions, however, has been the smooth functioning of the foreign exchange markets. This has eliminated the incentive to transact in foreign currencies. The lev is now widely accepted in spite of the high inflation which has ensued. This is a major accomplishment for an economy in transition.

External stability depends on the establishment of foreign exchange rate convertibility. During the early phases of the transition, this was a major objective of the central bank. Here also the bank met with considerable early success, but during two recent periods the value of the lev fell dramatically. Since February 1991 when prices were released, the convertibility of the lev has been established for many types of transactions. During 1991 the floating exchange rate fluctuated between BGL 15 and BGL 22 per dollar. From early 1992 until the autumn of 1993 the fluctuations of the lev were moderate and the lev appreciated in real terms over the year. Its nominal value rose from BGL 22 to about BGL 26 per dollar while the inflation rate was about 80% per annum. In the autumn of 1993 and again in the spring of 1994 there were sharp adjustments in the exchange rate. The nominal value of lev depreciated dramatically. By the summer of 1994 the exchange rate was BGL 54 per dollar. Over the next six months the lev steadily depreciated in nominal terms until it reached BGL 66 per dollar at the end of 1994 where it remained throughout the spring of 1995. Inflation over this recent period was also higher. In 1994 the inflation rate was 121%¹³.

Issuing Currency: The second statement requires the central bank to decide on the issuance and withdrawal of banknotes. By the end of 1994 there was more than BGL 69 billion in circulation.

As this mandate is discussed, bear in mind the distinction between money and currency. In controlling the **money supply**, which includes both currency and other liquid funds, the BNB is attempting to implement national macroeconomic objectives such as limiting inflation,

¹³ A dramatically different story unfolds if the producer price index is used instead of the retail price index. In contrast to the 80% rise in the retail price index, the producer price index rose only 25% during 1992 and continued to rise at a much slower rate until the end of 1993. Beginning in the first half of 1994 the consumer and producer indexes rose at approximately the same rate, but then consumer prices began rising more rapidly again in the second half of the year. In 1994 producer prices rose 91% while consumer prices rose 121%.

maintaining stable foreign exchange rates and spurring economic growth. In **issuing currency**, the BNB's objective is more limited. Decisions can be guided by public preferences, as to both quantity and denomination of currency so long as the central bank controls the overall quantity of money and credit.

The rapid inflation of the past several years has prompted a change in consumer preferences away from small lev banknotes and stotinkas coins, to larger denomination notes. The BNB has decided, for example, to replace one, two, and five lev banknotes with coins, and to withdraw from circulation coins of 1, 2, and 5 stotinkas by the end of 1995. Similarly, in 1992, the BNB circulated 200 lev banknotes for the first time. In 1993, 500 lev banknotes were circulated; in 1994, 1000 and 2000 lev banknotes were created. These new notes are a response to the nation's desire for notes of higher denomination.

In addition to denominational preferences, the public at times develops a need for relatively more currency and relatively less bank deposits. The BNB can respond to these seasonal needs by expanding the amount of banknotes in circulation. These peaks may correspond to the public's increased needs for currency during holiday periods.

Commercial Bank Regulation: Finally, to the BNB has also been given responsibility as the State's regulator of commercial banks. Throughout the world, governments typically set rules and monitor the performance of banks to a much greater extent than they do other businesses. Underlying this caution is first the fact that banks operate primarily with the funds of others, those of their depositors, who require protection against mismanagement of their funds. Secondly, given the central role of commercial banks in the allocation of financial resources, the disturbing effects of bank failure can resound throughout the economy.

Central banks need not necessarily be also supervision agencies. Indeed the alternative of an independent supervision agency outside of the BNB was considered. It was ruled out by Bulgarian lawmakers in view of the limited quantity of skilled bank staff and the possibility of overlapping control issues with the BNB if such an arrangement were established (Stratev, 1992).

The broad outline of the BNB's regulatory responsibilities regarding commercial banks are found in the Law on the Bulgarian National Bank. These general obligations are further elaborated in the Law on Banks and Credit Activity (1992). This latter specifies the power of the BNB to

grant and revoke licenses for conducting banking operations. It additionally provides for both off-site and on-site inspections of commercial banks.

BNB Organization

The functions of the BNB are administered by a Governor, a Managing Board, and a Plenary Council. The Governor, elected by the National Assembly to no more than two five-year terms, is the BNB's chief executive officer, responsible for organizing, directing and supervising the activities of the Bank, and representing it at home and abroad. The Governor is the chairman of the Managing Board. Other members are three Deputy Governors and five Heads of Departments of the Bank. All major policy and regulatory decisions relating to the BNB's three functions must be adopted by this Board. Intending to protect the Managing Board from undue political influence, Article 15 of the Law stipulates that "The mandate of the Governor of the Bank, the Deputy Governors and the other members of the Managing Board may be suspended before the term set only if they have been sentenced for committing a crime of general character with malice prepense or are prevented from performing their functions for more than a year."

The Law on the Bulgarian National Bank enumerates the duties of the Managing Board. It is directed to "discuss and take decisions on the implementation of the monetary and credit policies." Specifically, it is directed to "fix the percentage of the minimum reserves to be held by the banks," and to "fix the interest rates for this Bank's operations." These functions are critical tools for the management of the economy. Only the Managing Board grants and revokes commercial bank licenses, and sets rules for banking activities.

In the Plenary Council, members of the Managing Board are joined by six experts from the financial and scientific community. The functions of the Plenary Council are more global in scope, defining the general direction of monetary and credit policies, rather than its specific implementation. The Council must approve the annual reports and the budget of the Bank.

The Balance Sheet of the BNB

By reviewing the balance sheet of the BNB we can describe many of its activities.

Bulgarian National Bank

December 1994

(million BGL)

Assets		Liabilities	
Bulgarian Coins	342	Statutory Fund	200
Foreign Currency	109	Reserve and Other Funds	91,094
Participation in Int. Institutions	12,075	Banknotes in Circulation	45,935
Foreign Securities	50,391	Current and Deposit Accounts	86,361
Deposits and Loans to Com. Banks	89,946	Other Liabilities	17,734
Loans to the Government	40,087		
Securities	14,767		
Other assets	33,606		
Total Assets	241,324	Total Liabilities	241,324

Source: BNB Annual Report, 1994.

Assets

Holdings of Bulgarian Coins: This item is an asset of the BNB and is a liability of the government. It is as if the government issued the coins. This differs from banknotes which are liabilities of the BNB.

Holdings in foreign currency: These are cash holdings of foreign currency. When combined with holdings of foreign securities, these holdings represent the foreign currency reserves of the BNB.

Holdings in foreign securities: The BNB holds most of the foreign currency reserves in securities in order to earn interest on its foreign currency balances. The BNB accumulates foreign currency reserves when it sells lev and purchases foreign currency on the foreign exchange market. Because it is a very large participant in the foreign exchange market for lev, decisions by the BNB to buy or sell foreign currency can have a significant effect on the lev exchange rate.

Another important source of foreign currency reserves has been loans from international organizations, including the International Monetary Fund (IMF), the World Bank, the European Union and Japan.

The policy that the BNB follows regarding the exchange rate can have an important impact on the economy. Movements in the exchange rate can affect both prices in Bulgaria and the competitiveness of Bulgarian products in foreign markets. During the sharp exchange rate movements in late 1993 and the spring of 1994, the BNB sold foreign currency in an attempt to keep the lev from depreciating too dramatically.

The BNB is now following a policy which attempts to smooth movements in the lev and prevent large fluctuations (BNB, Annual Report

1994, p. 104). During the first half of 1995 the BNB added significantly to its reserves by purchasing foreign currency. The exchange rate changed very little during this period. If these purchases had not been made, the lev would have appreciated.

The level of foreign currency reserves is important. When the BNB has large foreign currency reserves, it is easier for the BNB to intervene in the foreign exchange market and prevent sharp fluctuations. If speculators in foreign exchange think that the lev will depreciate, they will sell lev. Unless the BNB buys lev, the exchange rate will fall sharply. When the BNB has large foreign currency reserves, its pronouncements that it will keep the lev from falling will have greater credibility.

Foreign currency reserves also serve another important function. In the spring of 1994 Bulgaria signed an agreement with the London Club group to reschedule payments on part of Bulgaria's large foreign debt.¹⁴ Under this agreement there was a substantial reduction (of about 45%) in debt and debt service, but the government must make regular payments in foreign currency. The accumulation of foreign currency reserves during the first part of 1995 will make it easier to make the promised payments.¹⁵

Participation in international organizations: Bulgaria participates as a member of a number of international organizations including the IMF, the World Bank Group (IBRD, IFC, MIGA) and the European Bank for Reconstruction and Development (EBRD). Bulgaria is also a founding member of the Bank for International Settlements (BIS) in Basle and two Moscow-based banks of the former CMEA. Bulgaria's participation in these organizations requires an equity participation which the BNB shares with the Ministry of Finance.

Loans to the government: The government has operated with a budget

¹⁴ The London Club refers to banks which have formed a group to negotiate with debtor countries that have debt problems. London Club loans are from private banks. The Paris Club loans are from countries.

¹⁵ During the first half of 1995 the BNB has been accumulating foreign currency reserves while the lev has remained steady. Inflation has declined sharply and sufficient reserves have been accumulated that Bulgaria should be able to make the payments under the London Club agreements without additional assistance from the IMF. It is not clear, however, where this foreign currency is coming from. There is no stand-by agreement with the IMF. An important unanswered question is whether this inflow is a temporary or permanent condition. Since the source of this flow of foreign currency is not known, it is not possible to answer this question.

deficit every year since the transition began. One of the two important channels through which the government borrows is direct loans from the BNB. As we will show later, this transaction is almost equivalent to having the BNB print money for the government to use to pay its expenses.

Each year the amount the government owes the BNB grows. This reflects the growing size of the government debt. Typically these loans mature in 10 years and pay the base rate of interest.

Securities: The second channel through which the government borrows money is by issuing government securities. These securities are purchased by banks, the State Insurance Institute and the BNB. A very small part is purchased by individuals. BNB's holding of these securities is recorded here in the BNB accounts.

When the government issues government securities and they are purchased by the BNB, the end result is effectively the same as having the government borrow directly from the BNB. The BNB essentially prints money that the government spends.

Holding government securities serves an additional purpose for the BNB. When the BNB buys and sells government securities in the financial market, it can regulate the money supply. These secondary markets in government securities have been developing, but the BNB is still constrained in using this tool to regulate monetary policy by the fact that these markets are still relatively immature. A further discussion of these activities appears in Chapter VII.

Other Assets: This entry of the balance sheet includes such items as the buildings and equipment owned by the BNB and the BNB's ownership in the Bank Consolidation Company. It is also an offsetting entry for the valuation adjustments of the foreign liabilities in case of depreciation of the lev.

Liabilities

Banknotes in circulation: This entry reflects the role of the BNB as the issuer of currency.

Current and deposit accounts: These accounts fall into two basic categories. First, the Ministry of Finance uses its account at the BNB as an individual or enterprise would use a commercial bank account. The Ministry is responsible for making government payments. For example, the Bulgarian foreign debt which is owed to the London Club is considered an obligation of the government. When the Ministry makes a payment to

the London Club, its balances at the BNB are reduced. When this happens, the BNB loses foreign currency holdings. This is illustrated below. (Note that the accounts are listed in lev even though the payments are made in foreign currency.)

Bulgarian National Bank

(million BGL)

Assets		Liabilities	
Foreign Currency holdings	-20,000	Current and Deposit Accounts	-20,000

Also entered under current and deposit accounts are deposits by commercial banks. Two important types of commercial bank deposit accounts are settlement accounts and reserve accounts. Settlement accounts are used by the commercial banks to facilitate the transfer of funds between banks when, for example, payments are made between enterprises which have accounts at different banks. Commercial banks also place funds in reserve accounts to satisfy minimum reserve requirements. Minimum reserve requirements are explained in Chapter V.

Statutory fund: Under the Law on the BNB the BNB is required to keep BGL 200 million in fixed capital. This represents the net worth of the bank. Since the BNB is very profitable and returns most of its profits to the government, it is not difficult for the BNB to retain the required fixed capital.

Reserve and other funds: The Reserve fund is part of the net worth. The BNB earns interest on loans it makes to banks and the government. It also receives interest on its holding of foreign securities. It pays interest on current and deposits accounts, but the interest the BNB pays out is much lower than the interest it receives on its assets. On banknotes, another liability, it pays no interest at all. The BNB pays its operating expenses out of this net income, but substantial profits still remain. These profits are collected in the reserve account.

If this were a private bank these accumulated earnings would be paid out to shareholders or be used to increase the capitalization of the bank. The BNB is a central bank and the distribution of the operating profit is regulated by the Law on the BNB (Article 8). Part of the profits (25%) are added to the reserve fund. The Managing Board can decide to establish funds for special purposes – at present 1% of the profit is allocated to provide emergency assistance to families of BNB employees. The other

74% is transferred to the government. In 1994 the BNB transferred over BGL 21 billion from the reserve account to the government (BNB Annual Report 1994, p. 88).

Other Liabilities: The entry included balance sheet adjustments when there is revaluation of the lev. This is required because some of the BNB's assets and liabilities are in foreign currency.

The Independence of the Bulgarian National Bank

A final important element in the structure of banking is the relationship between the central bank and the government. Ever since the founding of the Bulgarian National Bank in 1879, there has been controversy about the appropriate nature and extent of the Bank's independence from the government. A period of increased independence from government in the 1920's, for example, was followed by increasing government control in the 1930's (Colander and Kenningham, 1993). The issue of the past as well as the issue of today is who should control monetary policy: an independent agency headed by an appointed official who in theory is protected by law from removal from office or the government selected by the citizenry? Independence is sought by those who wish to preserve the ability of a central bank to make needed but unpopular decisions on policy matters. Greater control by government is sought by those who value responsiveness to a governmental policy course. The relationship between the government and the central bank authorities continues to be contentious today as the question comes to an economy in a transitional phase, bearing the burden of unemployment and inflation.

In recent years there has been growing interest among economists as to whether central bank independence leads to better economic performance. Germany, where the Bundesbank operates with considerable independence, presents an example where independence and low inflation are present together. Cukierman (1994) surveys a range of studies which show that greater legal independence is associated with lower inflation in developed economies, but this association is not valid in underdeveloped countries. In underdeveloped countries there is a strong association between inflation and the turnover of central bank governors. This suggests there is a difference between the rule of law in developed countries and underdeveloped countries. For countries like those in transition, which have less experience with legal constraints, other measures of independence are more appropriate. When these measures are applied, the ben-

efits of central bank independence can still be seen in lower inflation rates.¹⁶

The legal base which determines the relationship between the government and the BNB supports an independent central bank. Article 47 of the Law on the Bulgarian National Bank states that the central bank is to perform its functions “independent from the instructions from the Council of Ministries and other state bodies,” although Article 1 places it “accountable to the National Assembly for its activity.” Twice a year the BNB must report to the Parliament regarding its operations. However, in both 1991 and 1992 the Law on the State Budget effectively overrode Article 49 which restricts the amount of direct uncollateralized credit the BNB can extend to the government. These actions call into question the BNB’s independence at a practical if not a legal level.

Concluding Remarks

In this section we have seen the BNB has responsibility for issuing currency, maintaining the stability of the lev, and managing the total supply of money and credit. These functions are carried out by the Managing Board of the Bank, and led by a Governor. The central bank has been successful in establishing the lev as the medium of exchange, the first of Stiglitz’s functions that must be performed by financial institutions in a market economy. Bulgarian banking laws indicate support for an independent central bank, although this independence has been challenged. Nevertheless, Bulgaria has codified the basic structure of a two-tier banking system with the BNB as a central guiding force in directing developments within the financial sector.

¹⁶ Cukierman finds no association between central bank independence and slower growth. He concludes that greater independence produces less inflation without harming growth. Cukierman also discusses other regulatory responsibilities such as deposit insurance and being the lender of last resort which are often given to the central bank. He argues that when these responsibilities are given to the central bank “bad debts are likely to be automatically monetized without budgetary legislation. By contrast when these functions are institutionally separate from the CB it is more likely that the budgetary implications of rescue operations will be more visible to the public eye” (p. 1445).

The functions of money in a market economy are to act as a medium of exchange, a unit of account, and a store of value. Under central planning, however, money did not necessarily function as either a medium of exchange or as a store of value. Rather there were two types of money in Bulgaria. One type was used to pay wages and circulated among individuals. It was used to purchase goods and services on the market. The second type was in state enterprise bank accounts. It was used to describe the transactions which took place among state enterprises, which were constrained from easily converting the second type of money into the first type. When the Bulgarian economy was “monetized” the distinctions between these two types of money disappeared. Now that the Bulgarian lev performs the functions of money as they are understood in market economies, Bulgaria faces the same issues of definition and measurement of money that exist in market economies. Arriving at good definitions of the money supply in Bulgaria is especially challenging, however, because financial institutions are constantly changing.

Different definitions of money are used depending on the purpose for which they are employed. Utilization of the proper measure of money is particularly important in the analysis of macroeconomic issues, where using the wrong measure can result in poor policy choices. Traditionally the most narrow definition of money is called M1 and successively broader definitions are referred to as M2, M3 and so on. M1 refers to assets that function as a medium of exchange. M2 includes all these assets as well as those which are extremely liquid, that is, easily converted into alternative assets which can be used as a medium of exchange. M3, M4 include progressively less liquid assets.

The determination of what to include in each of these definitions can change over time depending on institutional arrangements and common practice. If mechanisms are established which enable economic agents to make payment with certain assets then these assets *could* be included in M1. They *should* be included in M1 if economic agents actually use them to make payments. For example, money market accounts in the United States pay interest rates competitive with savings accounts. A limited number of checks can be written on these accounts each month.

Even though the funds in these accounts can be used to make payments, individuals rarely do so. In other words, individuals could treat these accounts as a medium of exchange but in fact they do not. So the decision was made to include them in M2, not in M1.¹⁷

In Bulgaria, the BNB reports three measures of the money supply: M1, M2, and broad money. The Bulgarian M1 corresponds to the standard formulations. M2 includes the assets in M1, plus foreign currency deposits and time and savings deposits which together constitute “quasi-money.” Broad money is the sum of M2 and import and restricted deposits. The BNB does not formally report a measure of M3.

Currently the definitions of the money supply, M1, quasi-money, and broad money are:

$$\mathbf{M1} = \mathbf{Cp} + \mathbf{DD(lev)}$$

$$\mathbf{QM} = \mathbf{FCD} + \mathbf{S} + \mathbf{T}$$

$$\mathbf{M2} = \mathbf{M1} + \mathbf{QM}$$

$$\mathbf{BM} = \mathbf{M2} + \mathbf{RA}$$

where

Cp is cash not in banks, **DD(lev)** is demand deposits in lev, **FCD** is foreign currency deposits,¹⁸ **S** is savings deposits and **T** is time deposits of all maturity levels. **RA** is restricted accounts which include funds deposited for purposes such as the registration of business licenses.

We shall shortly discuss each of these components, but first it may be useful to get an overall sense of the magnitude and movements of the different measures. Table 4.1. gives BNB’s calculation of the money supply. Note that there was rapid growth of time deposits relative to other liquid assets through 1993. During this period the growth of quasi-money was much more rapid than M1. In 1994 time deposits and M1 have continued to grow at about the same rate, but foreign currency deposits have grown much more rapidly than other assets. This is due to the sharp devaluation of the lev which occurred in the spring of 1994 and the fear of another devaluation in the late summer. Since foreign currency

¹⁷ Mishkin (1992, p. 33) sees so much ambiguity in the use of these funds that he suggests that they should not be entirely included nor entirely excluded from the definition of M1. He proposes that a percentage of these balances be included in M1.

¹⁸ Until October 1992 both lev and foreign currency deposits were included in the definition of M1. In November foreign currency deposits were moved out of M1, but were still included in the calculation of quasi-money.

Table 4.1. Quarterly Money Supply

Indicators	Dec 1991	March 1992	June 1992	Sept 1992	Dec 1992	March 1993	June 1993	Sept 1993	Dec 1993	March 1994	June 1994	Sept 1994	Dec 1994	March 1995
Broad Money	111.61	123.06	128.58	146.89	158.56	169.72	188.1	213.39	234.07	299.96	315.21	375.98	418	448.42
M2	108.02	119.77	125.5	143.62	154.97	165.73	184.39	209.56	229.92	291.83	309.73	366.73	409.1	439.93
M1	26.89	23.9	25.1	31.84	37.83	32.58	36.92	43.82	48.3	50.15	55	63.69	75.13	71.59
Cash	11.87	11.8	12.76	15.98	18.27	17.38	20.2	23.27	25.15	26.8	30.26	33.26	38.5	37.13
Demand Deposits	15.02	12.1	12.34	15.86	19.57	15.2	16.72	20.51	23.15	23.35	24.74	30.43	36.63	34.46
Quasi-money	81.13	95.87	100.4	111.78	117.14	133.15	147.47	165.74	181.62	241.68	254.73	303.04	333.97	368.34
Time Deposits	25.87	37.33	44.61	52.84	59.41	72.88	87.12	99.59	109.97	120.81	136.03	147.75	164.95	199.05
Savings Deposits	15.95	14.63	14.71	15.68	20.21	20.27	21.05	22.35	28.05	28.13	29.97	31.22	40.85	43.46
Foreign Currency Deposits	39.31	43.91	41.08	43.26	37.52	40	39.3	43.8	43.6	92.74	88.73	124.07	128.17	125.83
Restricted Deposits	3.59	3.29	3.08	3.27	3.59	3.99	3.71	3.83	4.15	8.13	5.48	9.25	8.9	8.49

Source : BNB Monthly Bulletins.

Note: Foreign currency deposit numbers have been lowered beginning with Dec 1992 (revision of earlier numbers is not available). Also included now is a M2 calculation which does not include Import and Restricted Deposits.

deposits are also part of quasi-money, quasi-money continues to grow more rapidly than M1. This differential growth in the measures illustrates the point that the choice of measures *does* matter.

Definition of M1: $M1 = C + DD(lev)$

M1 contains only the most liquid assets: cash and demand deposits. Both of these assets can be used as a means of payment. Reliance on cash as a medium of exchange is particularly strong in Bulgaria, however. The widespread use of cash is related to three factors: the mechanisms of payment, the time required for payment, especially in light of prevailing interest rates, and the evasion of taxes.

The use of banking services for making payment is still largely restricted to firms, which have long used banking services for accounting purposes under central planning. This has not been the case for individuals. Certainly, a primary reason for the reliance of individuals on cash as a means of making payment is that they often have no alternative. Although settlement deposits, which are accounts held by individuals, can be used directly for payment, their use is limited to the payment of utility bills. For this reason most individuals keep their liquid assets in time deposit accounts rather than demand deposit accounts. This contrasts sharply with the United States and most west European countries where other forms of payment are widely used.¹⁹

A second factor has been the long periods required before payment was received through the Bulgarian bank clearing system. Under these circumstances, cash can be the preferred means of payment even for enterprises. When interest rates are high, it is costly when money is not re-

¹⁹ It might be noted that USD100 bills are much more visible in Bulgaria than they are in the United States. There are two good reasons for this. First, Bulgaria has no currency notes of comparable size although the recent issue of the 2000 lev note is helpful. Thus if someone wants to carry a large sum with them, carrying dollars is easier. Second, in the United States for most transactions of any size cash is not used. Credit cards or checks would be the preferred method of payment. Recently two private and one state-owned banks have issued debit cards. A centralized infrastructure for processing transactions through debit cards is established and a number of banks, including United Bulgarian Bank and SSB are expected to issue their own debit cards in the near future. There are still very few points of sale so it will take some time before the debit cards begin to be used for making payments more widely.

ceived on a timely basis. The Bulgarian National Bank has put into place a new clearing system, the **Bank Integrated System of Electronic Transfers (BISERA)**, intended to correct delays in payments clearance. Improvements in transaction processing through this system has made payment easier. About 99% of interbank transactions are cleared in 24 hours. A transfer from the payer's account to the payee's account in any two locations in the country can be completed in three days. Much business is now conducted through this system. A good indicator that progress is being made is that private businesses, which were not part of the old central planning system also use this system although the incentives for tax evasion are still strong.

Definition of Quasi-Money: $QM = FCD + S + T$

Quasi-money contains assets that are very liquid but are not normally used directly for making payments.

Demand Deposits of Firms in Foreign Currency: Until September 1992 approximately 60% of demand deposits at commercial banks were in foreign currency deposits.²⁰ Until November 1992 these accounts were included in M1. They have been moved to quasi-money because they are used to store value and make payments for imported goods rather than as a medium of exchange for domestic transactions. The reasoning behind the decision is similar to the example of money market accounts in the United States given earlier. That is, since these accounts are not in fact used for making domestic payments, they should not be included in M1²¹.

Savings Deposits: Although savings deposits (i.e. accounts) are reasonably liquid, they are included in the calculation of quasi-money rather than M1 because they are not widely used for transactional purposes. At one time this was the only type of account available to individuals and only at the State Savings Bank. Now all commercial banks may offer these accounts.

Time Deposits: The remaining category, time deposits, consists of de-

²⁰ Total demand deposits in September 1991 were BGL 57 billion. Convertible currency deposits were BGL 41 billion.

²¹ Statistical data for M1 before 1993 have been revised and adjusted. In official publications after 1993 the data are entirely consistent with the new definition.

posits held at a bank for specified periods of one month to a year. These are similar to certificates of deposit in the United States. In this category are also included children's deposits which are savings accounts with restrictions on the withdrawal of funds, including the signatures of both parents, and in certain cases of the child as well. Because of these restrictions, the accounts pay higher interest rates.

In general, interest rates on longer-term deposits are somewhat higher to encourage customers to place their money in longer-term time deposits. Still the interest differential is not significant. As a result, most time deposits are of short maturity – one and three months, combining relatively high interest income and reasonable liquidity.

While the interest rates tend to adjust with the central bank base rate,²² normally there is no enforceable contractual agreement between the customer and the bank as to exactly how the interest rates will be set over time.²³ The inability of savers to get a clear contractual agreement regarding interest rate adjustments on these accounts is an indication that the banks still enjoy a powerful position relative to their customers. In general, interest rates on longer-term deposits are higher to encourage customers to place their money in longer-term time deposits.

Time deposits were the fastest growing element of the money supply. Between December 1991 and June 1993 time deposits grew by 237%. This compares with a 37% growth in M1 and a 11% growth in demand deposits in lev. This high **nominal** growth rate of time deposits can be attributed to the high nominal interest rates on these accounts and the relatively low penalties for early withdrawal. A balance between cash, demand deposits and time deposits appears to have been reached around the middle of 1993. Since then the rate of growth of these three types of assets has paralleled one another. From June 1993 to December 1994 the growth rate of cash has been 91%, M1 103% and time deposits 89%.

Throughout 1994 the nominal interest rate on time deposits rose. By the end of the year the rate was above 60%. Although these accounts pay

²² *The central bank rate (or base rate) is an interest rate set by the BNB. The BNB makes collateralized, i.e. Lombard, loans to the commercial banks at this interest rate. (Other loans from the BNB to the commercial banks may be at higher rates.) Many other interest rates in the economy are affected by the central bank base rate. This rate is discussed in more detail below.*

²³ *Some banks include a statement that the interest rate is adjustable and dependent on the central bank rate, but then they do not necessarily abide by these statements.*

high nominal interest rates, after taking account of inflation the real interest rates on these accounts are very negative. In 1994 money left in a time deposit account would have lost 25% in real purchasing power. These negative real interest rates have discouraged people from adding to their time deposit accounts. The growth in the nominal level of time deposits during 1994 was somewhat less than the interest payments on these deposits. Thus there were actually net withdrawals from these accounts during 1994. This trend was reversed in 1995 as the exchange rate stabilized and inflation began to come down. Time deposits began to grow again.

While time deposits are not used directly for making payment, they are now being used by individuals as a highly liquid asset which can be easily converted into cash for making payments. They now form an important part of the money supply. Since one-month deposits appear to be a form of near-money with a large impact on overall demand in the economy, they should probably be separated from the others in defining the money supply.

Defining M2 and Broad Money

M2 is simply the sum of quasi-money and M1. Thus, M2 contains all the assets that we have described so far. Broad money contains all these assets and import and restricted deposits.

Restricted Deposits: Restricted deposits include funds deposited for purposes such as the registration of business licenses and money put aside for the purposes of capitalization of companies.

The Money Supply and Economic Policy

It is generally conceded that there should be a strong relationship between the growth rate of the money supply and inflation. This is particularly true in countries experiencing high rates of inflation.²⁴ Yet recent studies by Petranov (1993) and Minassian (1994) find little relationship between money supply change and inflation in Bulgaria even when several different definitions of the money supply were used. The failure to find a high correlation between money growth and inflation may be due to a number of factors. Radical changes in financial institutions present one possibility. As we have seen, important changes in the relationship

²⁴ See, for example, Cagan's (1956) classic study of hyperinflation.

between various different types of deposit accounts took place since the transition began. For example, until mid-1993 time deposits grew much more rapidly than other elements of M2. From this time forward, time deposits have grown at approximately the same rate as other deposits. From mid-1993 until the third quarter of 1994, foreign currency deposits grew more rapidly than other elements of M2. Part of this sharp increase was simply the revaluation of foreign currency deposits due to the depreciation of the lev. But 20% of the increase is new foreign currency deposits added to accounts between mid-1993 and March 1995. In third quarter of 1994 there was a large shift toward foreign currency deposits following the foreign currency crisis in the spring of 1994. This movement stopped when the exchange rate stabilized later. These shifts suggest important behavioral changes that are not being captured in the more aggregated M2 figures. All of these factors should be taken into account when making economic policy decisions.

Activities of the Commercial Banks

Understanding the activities of commercial banks is important for at least two reasons. First, the principal mechanism for passing savings from individuals to investors is through the commercial banking system. This is Stiglitz's second required function of financial institutions in a market economy. Since at present the variety of financial institutions is very limited in Bulgaria, the importance of commercial banks in this process of financial intermediation is great. Secondly, the banks play an important role in determining the money supply, a key macroeconomic policy variable. The various money supply definitions discussed in Chapter IV all include both cash held by the public and deposits at commercial banks. The role of commercial banks in the determination of the money supply is critical as these deposits are the liabilities of commercial banks. We begin by looking at the items that appear on the balance sheets of commercial banks. Then we consider how the commercial banks manage their assets and liabilities.

The consolidated balance sheet of Bulgarian commercial banks is given in Table 5.1. below. A new uniform accounting system and reporting system was first promulgated in February 1993. Banks were required to adopt the requirements by June 30, 1994, but due to technical reasons this period proved to be too short. Finally the new accounting system was adopted at the beginning of June 1995. Some caution should be used in reviewing these accounts. The figures in the accounts have fluctuated considerably over the past two years. Furthermore, banks with specialized roles can distort the overall picture provided by the aggregation of all bank activity. Such is the case of the Bulbank's (formerly the Bulgarian Foreign Trade Bank) contribution to the *other assets* item, and the State Savings Bank's contribution to attracted resources from nonfinancial institutions and other clients. Aberrations such as these will be pointed out in discussion of the relevant balance sheet item.

Table 5.1.Consolidated Balance Sheet of the Commercial Banks and the State Savings Bank

(31 December 1994)

Assets		Liabilities	
A. Financial Assets	926.613	A. Attracted Resources	809.620
I. Cash Balances	112.165	I. From Banks and Other Financial Institutions	368.873
II. Government Securities	212.331	II. From Nonfinancial Institutions and Others	422.747
III. Claims on Banks and Other Financial Institutions	137.756	B. Future Revenue	57.459
IV. Claims on Nonfinancial Institutions and Others	451.224	C. Other Liabilities	113.982
V. Bonds and Other Securities with Fixed Yields	4.260	D. Own Capital	90.697
VI. Shares and Other Securities with Variable Yields	0.917	I. Profit	9.519
VII. Financial Long-term assets	7.949	II. Capital	51.925
B. Nonfinancial Assets	20.110	III. Reserves	29.251
C. Future Expenditure	3.400		
D. Rights to Equity Subscription	0.688		
E. Other Assets	102.769		
F. Reported Losses	17.178		
Total Assets	1,071.759	Total Liabilities	1,071.759
G. Off-Balance Assets	216.969	E. Off- Balance Liabilities	216.969

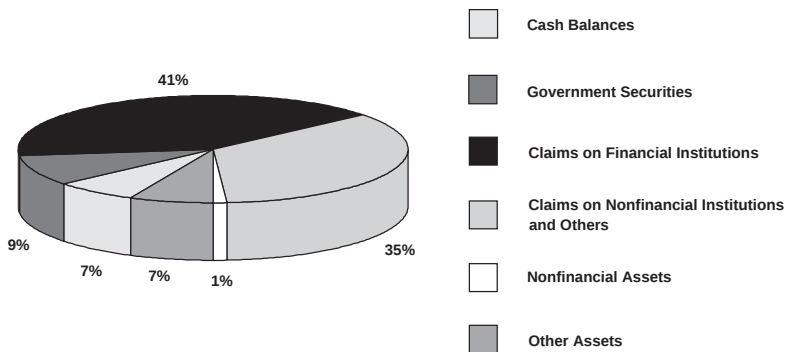
Figures in billion BGL. Source: BNB Annual Report, 1994.

The Balance Sheet of Commercial Banks: Assets²⁵

The following are descriptions of the most important commercial bank assets and their function. In Figures 5.1. and 5.2. the structure of banks' assets at the end of 1993 and 1994 is presented. For clearer presentation "bonds and other securities with fixed yield," "shares and other securities with variable yield," "financial long-term assets," "rights to equity subscription" and "future expenditures," because of their low share are aggregated in the common group "other assets."

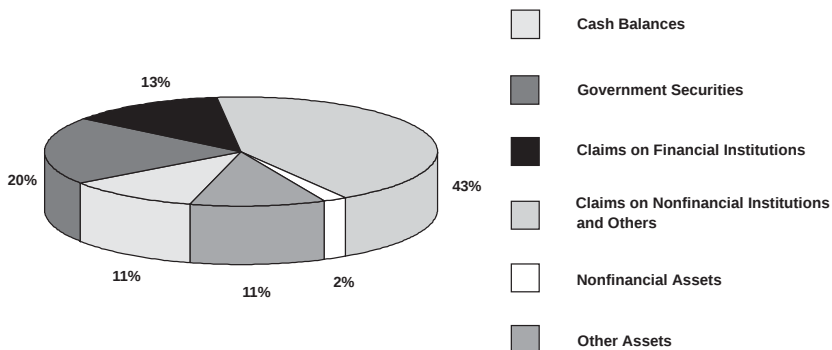
²⁵ This section draws on material provided by Stoyan Iliev and Tzvetan Bonev.

Figure 5.1. Structure of Bank Assets, at 31.12.1993



Source: BNB Annual Report, 1994.

Figure 5.2. Structure of Bank Assets, at 31.12.1994



Source: BNB Annual Report, 1994.

Cash balances: This category includes all bank notes (cash) in the bank vaults, required reserves at the Bulgarian National Bank, transaction deposits at banks and precious metals.

Banks keep cash funds to service the demands of their customers. Since there are few alternatives, cash is widely used as a means of payment in Bulgaria. Banks must keep higher levels of cash on hand than banks do in other countries where other means of payment are more common.

By law commercial banks must maintain required minimal reserves at the Bulgarian National Bank. The level of these reserves is determined by

the BNB. According to the Law on the BNB (Article 40), “BNB determines the required minimal reserves up to 15 per cent of the total assets and the method of their calculation.” At first the requirement was set at 7% of total attracted deposits, but this ratio was raised in a series of steps during 1994 and 1995 until it reached 12% in the spring of 1995. In August 1995 it was decreased and set at 11%. The BNB also has the option to pay interest on these accounts. It did not do so until May 1995 when it began paying 10% (annually). As the reserve requirement has been raised, noninterest paying reserves can adversely affect bank profits.

Most of these mandatory reserves must be held in lev accounts, but if the bank has customers who make foreign currency deposits, some of the current and deposit accounts at the BNB can also be in foreign currency.²⁶

Commercial banks also have accounts at the BNB which are used for settlement purposes (i.e. clearing balances). When one enterprise makes a payment to another in levs and the two enterprises use different banks, the transfer of funds between the two enterprises also becomes a transfer of funds between the two banks. Suppose, for example, the enterprise making payment has an account at Balkanbank and the enterprise receiving payment has an account at TSBank. When funds are transferred between the two enterprises, settlement of the transactions occurs by deducting funds from the settlement account which Balkanbank has at the BNB and adding these funds to the settlement account that TSBank has at the BNB. The settlement accounts which commercial banks have at the BNB pay interest of 14% (BNB, News Bulletin 4, 1995).

The system of clearing transactions through the BNB only applies to transactions in levs. Any transactions in foreign currency must be cleared by the banks themselves.²⁷ To facilitate this process commercial banks

²⁶ When mandatory reserves were introduced in 1990, commercial banks were permitted to use foreign currency deposits to satisfy the reserve requirement. However, the ratio of foreign currency reserves to total reserves were not permitted to exceed the ratio of foreign currency deposits to total deposits held at the commercial bank. This policy was changed. At one point all foreign currency reserves were to be phased out by the end of 1993. Later foreign currency reserves were permitted. In 1994 the percentage of reserves that could be held in foreign currency was changed several times. For example, in August 1994 the policy was changed twice (*BNB Monthly Bulletin*, No. 8, pp. 42 – 43). Since the beginning of 1995, under specific conditions the percentage is 50%, otherwise it is 20%.

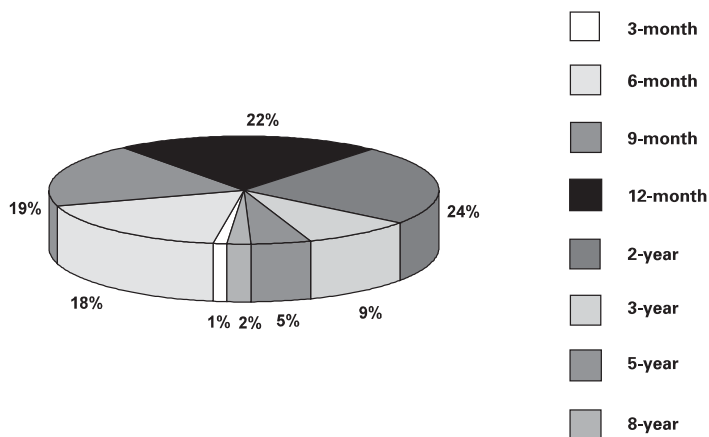
²⁷ While these foreign currency transactions are now settled through correspondent relationships between banks, in the future it is hoped that foreign currency transactions will also be cleared through the BNB (BNB Regulation BUS 1092, “Settlement in BNB,” p. 2.1; 2.2.6).

hold deposit accounts at other commercial banks. Bulbank (the former Bulgarian Foreign Trade Bank) is the largest provider of international services for other commercial banks, but any bank with a full license, of which there are presently seventeen, can provide these services.

Government securities: Banks hold two different kinds of government securities: securities issued to finance the government budget deficits, and securities issued under the Law on Settlement of Nonperforming Credits (LSNC) to cover the bad loans of the state enterprises.

Bonds issued to cover government budget deficits differ in maturity. At the end of 1994, 59.7% were short-term, and 40.3% were long-term securities. The detailed maturity structure of the government securities issued to finance the deficit is presented in Figure 5.3.²⁸

Figure 5.3. Maturity Structure of Government Securities



The second type of government bonds were issued by the government to cover the bad loans of state companies. Small programs were initiated in 1991 and 1992, then at the end of 1993, Parliament adopted the Law on Settlement of Nonperforming Credits²⁹ which included all the bad

²⁸ There are also longer-term government bonds, mainly held by the State Savings Bank, which were issued under an earlier recapitalization program. Twenty-year bonds of BGL 4.1 billion were issued in 1991.

²⁹ The popular Bulgarian acronym for this Law is ZUNK.

loans of state enterprises made before December 1990. Under the LSNC, banks were able to exchange BGL 119.3 billion of bad state-enterprise loans for government bonds. This program was designed to lift the burden of these bad loans from both the state enterprises and the commercial banks. A more detailed discussion of this program and its potential consequences can be found in Chapter VIII.

A comparison of total bank assets at the end of 1993 and 1994 shows that holdings of government securities rose from 8.9% to 19.8% of total assets. Most of this increase was due to the implementation of the LSNC in 1994. By the end of 1994 57.2% of internally held government debt was in the form of LSNC bonds. By comparison, government bonds issued to cover government deficits made up only 27.3%.

Although government securities issued to finance government deficits are issued by the Ministry of Finance, these securities are sold at auctions organized by the BNB. Secondary markets in these bonds have been developing since January 1993. The volume of trades increased significantly in 1994 although the BNB is still a participant in most transactions. The ability to trade in these markets increases the liquidity of the bonds and make them more attractive to commercial banks. About 90% of these government securities are held by the banking sector.³⁰

Claims on banks and other financial institutions: In this general category there are two types of claims: deposits at other banks and financial institutions and credits to other banks and financial institutions. Within each type there are several distinctions that should be made among the purposes of these deposits:

- Term deposits: Commercial banks can also deposit money for specified periods of time at the BNB. The interest paid on these deposits vary with the length of the deposits.
- Interbank loans: These are loans among commercial banks through the interbank deposit market. Most of the transfers occur from the State Savings Bank, which still receives the greatest proportion of all individual savings deposits. Other banks tend to be net borrowers in this system (BNB **News Bulletin**, 2, 1993).

³⁰ The other large purchaser of government bonds is the State Insurance Institute. The banks also act as an agent for individuals who wish to purchase these bonds. An individual goes to the bank and the bank makes the purchase in the auction market. Recently some financial houses act as agents for households and small companies as well.

At the end of 1993 these assets were 41.3% of total assets. This declined sharply (12.8%) at the end of 1994. In countries with well-developed financial institutions, this percentage would be much smaller. The decrease recorded in 1994 can be considered a movement toward normalizing bank portfolios and bringing their assets more in line with the international patterns.

Claims on nonfinancial institutions and other clients: An important function of banks is to make loans to support business activity. Banks can make loans both in levs and in foreign currency. In December 1994 approximately 44% of all loans were in convertible currency (BNB Annual Report, 1994.) This category includes only loans made to commercial and industrial organizations and individuals. Loans to other banks are included in the category *claims on financial institutions and other clients*.

- Commercial and industrial organizations: These loans are to both state enterprises and private firms.³¹ The interest rates on these loans are negotiable. Within this category are loans to state enterprises which, because of the difficulties with repayment, have presented serious challenges to the Bulgarian banking system. See “Issues in the Management of Bank Assets” below.
- Individuals: Banks also make loans to individuals for housing and other purposes. These loans are usually made by the State Savings Bank, whose interest rate is the lowest one. Regulations govern eligibility for consumer loans.

The relative share of claims on nonfinancial institutions in total assets has increased from 34.8% at the end of 1993 to 42.1% at the end of 1994. Given the fact that extending loans to businesses is typically the major banking activity of commercial banks, this can be considered a relatively low share. The recession in Bulgaria, reduced investment activity, lack of creditworthiness of borrowers, insecure collateral, and institutional changes have all contributed to the low level of such lending. The rising share of such loans might be the beginning of a restructuring of bank portfolios in favor of loans to the real sector.

³¹ Several important restrictions on “big loans” i.e. “loans to one person or economically related persons” are set forth in the Law on Banks and Credit Activity, Article 28. A large loan exceeding 15% of the owners’ equity in the bank must have the explicit approval of the bank management and may not exceed 25% of the owners’ equity. The total of such loans cannot exceed eight times the owners’ equity.

Shares and other securities with fixed yield in trading portfolio: This category includes securities with fixed yield which banks hold for a short period of time (less than one year), for hedging or speculation.

Shares and other securities with variable yield in trading portfolio: This category includes securities held by banks for a short period of time (less than one year), for hedging or speculation but with variable yield.

Long-term financial assets: This category includes securities which the bank intends to hold for a long period of time (more than one year) for the purpose of receiving dividends, controlling other financial institutions or other purposes.

The above categories are an insignificant share of bank assets – only 0.6% in 1993 and 1.2% in 1994. In part this reflects the fact that the stock market is still very rudimentary. Only a limited number of securities are traded and liquidity is still low. Furthermore, regulations governing the trading of shares are still in the process of development.³²

A bank cannot hold investments in real estate, equipment and securities in nonfinancial enterprises which exceeds the value of the owners' equity in the bank (Law on Banks and Credit Activity, April 1992, Article 29). This constraint has important implications from the standpoint of the banks' role in the corporate control. There is substantial debate regarding the desirability of commercial banks making equity investments. See "Management of Bank Assets" below.

Nonfinancial assets: The main items in this category are buildings, equipment, transport vehicles and material inventories. Nonfinancial assets acquired by banks as collateral against loans are also included. The relative share of total assets grew from 0.9% in 1993 to 1.9% in 1994.

Future expenditures: This item includes expenditures during the current period to maintain the bank's activity in future periods.

Rights to equity subscription: When banks increase their capital, they issue new shares to shareholders. These rights represent bank claims on shareholders against subscribed but not paid in capital.

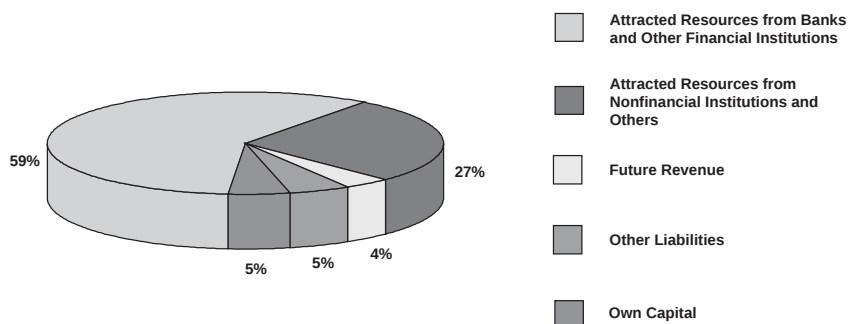
Other assets: Assets not classified elsewhere are included in this item. Bulgaria's foreign debt to other countries (i.e. Paris Club loans) is still on the balance sheet of Bulbank and is included here. In addition, adjustments for changes in foreign currency holdings arising from lev revaluation also appear here.

³² In June 1995 the Parliament adopted a law regulating securities trading.

The Balance Sheet of Commercial Banks: Liabilities

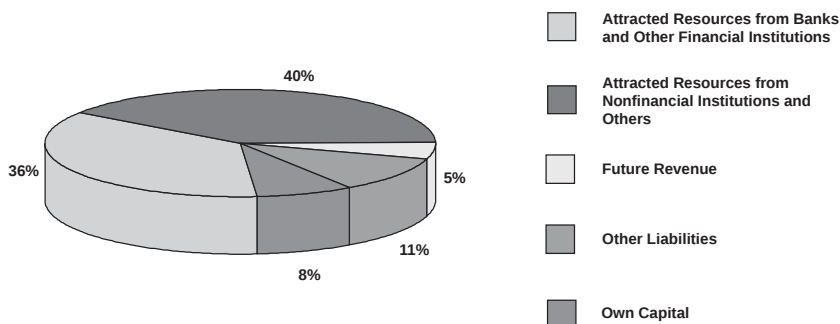
The liabilities side of the balance sheet of Bulgarian commercial banks consists of the following items: attracted resources, future revenues, other liabilities, and own capital. Liabilities structure at the end of 1993 and 1994 is presented in Figures 5.4. and 5.5.

Figure 5.4. Structure of Bank Liabilities, at 31.12.1993



Source: BNB Annual Report, 1994.

Figure 5.5. Structure of Bank Liabilities, at 31.12.1994



Source: BNB Annual Report, 1994.

Attracted resources from banks and other financial institutions: Commercial banks can borrow funds either from other commercial banks and financial institutions or from the BNB. Funds borrowed from other commercial banks and financial institutions pass through the interbank money market. Another market, the interbank deposit auction market,

was once a major source of bank funds provided by the BNB, but the BNB is now moving to collateralized forms of bank loans like Lombard loans. These and other instruments of monetary policy will be discussed in detail in Chapter VII.

It should be noted that the share of attracted resources from financial institutions in total liabilities is substantial. Although it has decreased from 58.7% in 1993 to 36.1% in 1994, it still remains high. This reflects the initial period of establishing the banking system and is an indication of the high level of interdependence between banks.

Attracted resources from nonfinancial institutions and other clients: These include all demand, savings and time deposits. Since the State Savings Bank was the only bank used by individuals before the reforms, the majority of these accounts is still at the State Savings Bank. Over time, however, with banks expanding their activities and establishing regional branches there has been a progressive movement away from the State Savings Bank as other banks compete for these funds.

Also included in this category are both transaction and nontransaction deposits of organizations and firms in levs and foreign exchange. Enterprises which have transaction deposits can make payment through the electronic payment system. All banks are now connected to this system.

The importance of these liabilities increased from 27.4% in 1993 to 39.4% in 1994. This increase reflects greater competition among banks for mobilizing resources from primary depositors.

Future revenues: When interest is due on loans but is not paid, the interest is credited as an asset. The balancing entry on the liability side is future revenues. Similarly, when banks purchase bills of exchange at a discount (i.e. below their face amount), they are carried on the books at their full face amount on the asset side. The difference between the face amount and the price actually paid is balanced on the liability side under *future revenues*.

The relative share of future revenues has increased from 4.4% at the end of 1993 to 5.4% at the end of 1994. This increase is at least partially due to the increasing amount of new bad loans.

Other liabilities: This category should include not yet paid wages for bank personnel, taxes, fees and commissions for services, etc. At present this category is much too large for these items alone. This probably reflects the fact that the new balance sheet accounting procedures are not fully understood by bank personnel. Many items are probably being

placed here when accountants are unsure where they belong.

Own capital: This category represents the ownership value of the banks and includes three subcategories – profit, capital and reserves.

- Profit. Here undistributed profit accumulated from both the current and previous years is recorded. At present the profits of the banking sector as a whole are negative. This is due to general economic conditions and problems in the banking sector. As a result, the share of profits in total liabilities is very low.
- Capital. Regulations now require that banks operating within Bulgaria have a minimum of BGL 500 million in capital. Banks with an international license must have BGL 800 million.
- Reserves. There are two kinds of reserves: legal provisions against bad loans and reserve funds. According to the Law on Banks and Credit Activity (Article 26) banks must set aside provisions against bad loans from their profits before taxation. The BNB regulates the classification of loans and the legal provisions against them. At the same time, when defaults are expected, banks reduce their dividends and create reserves against possible future losses. By setting aside funds over several years, it is easier for banks to manage their losses. The Law on Banks and Credit Activity (Article 22) requires that banks set aside at least 1/5 of their profits after taxation for a reserves fund until it reaches 1.25% of total assets. Because bank profits have been negative, actual reserves are still much less than this legal requirement.

In accordance with the provisions of the international Basle agreements, the banking law specifies that owners' equity should not fall below 8 per cent of risky assets³³ (Law on Banks and Credit Activity, April 1992, Article 21).

In 1991 the Bank Consolidation Company (BCC) was established by the government with the purpose to reorganize the banking system. The basic goal of the BCC is to bring about mergers between banks so as to create eight to ten relatively large state banks and then prepare them for privatization (BNB, 1991, p. 76). Capital in the banks held by Bulbank, the BNB and state enterprises are being transferred to the BCC which is then to organize the privatization process. So far the experience of BCC

³³ *The Basle agreements identify different risk categories. Owner equity requirements vary across different risk categories.*

has been controversial. Several consolidations have occurred but the process has been slow and difficult. The target number of state banks has still not been achieved – at the end of 1994 there were still 16 operating state banks. Privatization of the state banks has begun with minor sales of shares by the BCC but has not proceeded very far.

Issues in the Management of Bank Assets

In managing their asset portfolios private banks pursue three often contradictory objectives: profitability, liquidity, and solvency. For banks to be liquid they must hold assets that are easily converted into transferable assets. To ensure solvency the banks must be cautious about the riskiness of loans. To be profitable, they must put financial resources to work, seeking the highest yields on assets. But none of these can be pursued independently of the others. High yields can mean not only higher profits but also greater risk of insolvency. Liquidity can be at the expense of profitability as money sits idle. When banks manage their assets, they are pursuing strategies that will fulfill each objective without seriously impairing the others.

There are several features of the Bulgarian financial environment which further complicate the already difficult task of bank asset management. We shall focus on three of the major issues: the paucity of secondary markets in most assets, the burden of bad loans of state enterprises, and the need to finance the emerging private sector. Each impacts liquidity, solvency or profitability of Bulgarian commercial banks.

Secondary markets: The paucity of secondary markets in most financial assets limits the strategies that Bulgarian commercial banks can pursue to maintain liquidity. Secondary markets are valuable to banks because they enable them to move quickly in and out of holding assets to take care of unanticipated or extraordinary needs for cash. Until recently the bankers' only choices for maintaining liquidity were to hold cash, deposits at the BNB and to make short-term loans with other banks through the interbank money market. With the development of secondary markets in government securities beginning in January 1993, banks can now hold these securities and sell them when they need extra funds. Since the establishment of these secondary markets, the percentage of bank assets held in government securities has increased significantly. These markets are growing rapidly but they are still limited and cannot be compared with government securities markets in places like the

United States where huge sums are transferred on a daily basis.³⁴

Bad loans: One aspect of the reform of the banking system was the distribution of loans or credits of state enterprises to the newly formed commercial banks. The unfortunate legacy of these state enterprise loans created a severe challenge for the banking system. The “original loans” to many state enterprises were not really loans in the normal sense at all. The money was extended under the previous system of central planning where the risks of default on repayment were not evaluated. Once these loans appeared on the accounts of the newly established commercial banks, they became assets of these banks. As bank assets, the loans had value only if they were repaid. Unfortunately, many state enterprises were suffering from severe financial problems and were therefore not able to repay these loans. They could not simply be written off as the banks holding them would be seriously threatened with insolvency.

These problems were exacerbated by two other problems. The first was high interest rates. When prices were freed in February 1991, nominal interest rates rose sharply to reflect the high inflation. Even state enterprises that might have been able to repay existing loans were faced with high interest payments on the loans. The banks were fearful that if the loans went into default they might be threatened with bankruptcy themselves. The banks, therefore, did not want to declare the loans to be in default.

The second problem was that many of these enterprise loans were in convertible currency. Bulgaria borrowed large sums of money from foreign banks in the late 1980's. Even though the central planning system determined how the money would be spent, it was recorded in the banking system *as if* these were convertible currency loans being made by the central bank to enterprises. When the banking system was reorganized, these became *real* loans which the enterprises were now obligated to repay. If these loans had been denominated in levs, the high inflation in 1991 would have greatly reduced their real value, but the sharp deprecia-

³⁴ *The secondary market in government securities is improving, but banks are still concerned about its liquidity. When the BNB sells government securities to banks, a repurchase agreement is usually part of the sales agreement. Under the repurchase agreement, the BNB agrees to repurchase the government securities within a short period of time. This makes the security more liquid from the bank's perspective. The bank knows that it will sell the bond back to the BNB.*

tion of the lev more than offset this effect.³⁵

As time passed the problem became worse because enterprises paid neither the interest nor the principal on these loans. There was also government complicity in all of this. The government feared high unemployment and social unrest. State enterprises were in bad financial difficulty, but they were still functioning at some level. If the bad debts forced liquidation of state enterprises, unemployment would rise even higher. The banks understood this and recognized that the government would bail them out if state enterprise loans were not repaid. Thus the banks knew the risks associated with extending further credits to the state enterprises were low.

The Law on Settlement of Nonperforming Credits (LSNC) was passed in late 1993. This Law exchanges government securities for the bad credits that were created before 1991. By removing the bad debt from the balance sheet of the commercial banks, it was hoped that the financial condition of both the banks and the state enterprises will improve. The LSNC is a complex but important law and it will be discussed in greater detail in Chapter VIII.

Financing the private sector: The principal function of commercial banks should be to make loans to the business community. However, loans to the private sector have been very limited so far.

The BNB 1994 Annual Report shows only 12.4% of total credit going to the private sector in 1993 and 13.9% in 1994. This compares with 50% and 45% to the government sector and 37% and 41% to the state sector. Since at least one-quarter of the economy is private, these credit figures show that there is still a strong bias toward bank lending to the state sector. This bias continues to impede the development of the private sector in Bulgaria.

There are several reasons for this failure of the financial system to transfer funds from savers to investors in new economic production. First, there is great risk in the private sector. The economy is going through enormous change. Future developments are difficult to predict. Most prospective business people are very inexperienced; most bank per-

³⁵ *Inflation reduces the problem of repaying a fixed loan. If the value of a loan was fixed at BGL 500,000, it would have been much easier to repay it after prices had increased fivefold in 1991. When the loans were denominated in dollar amounts, however, the BGL 500,000 loan became a BGL 5,000,000 loan. See Dobrinsky (1994) for a more complete explanation of these problems.*

sonnel are very inexperienced as well. All these factors increase the likelihood that mistakes will be made and increase the riskiness of loans. During this early period of transition, uncertainty and inexperience make it extremely difficult to choose among projects so that the most productive projects receive the most support, and to effectively monitor the use of loaned funds (Stiglitz's points 2, 4 and 5).³⁶

Secondly, there is a differential in the risk that banks incur when they loan to the private sector. As the LSNC demonstrates, there is some probability that the government will protect banks when loans to state enterprises go into default. There is no similar guarantee for loans to the private sector.³⁷

Third, the laws regarding the bank's right to seize collateralized assets in the event of default are still vague. Without the ability to seize such assets, banks cannot effectively use collateralization to protect themselves against future risk.³⁸ The bankruptcy law has only recently been passed. The Bulgarian financial system cannot meet Stiglitz's seventh criterion of definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken³⁹.

In addition to these already formidable complications is the inflation-

³⁶ For a more detailed discussion of the problems of making loans in an economy in transition, see Miller (1995).

³⁷ It is not clear what protections the government will provide in the future. The LSNC covered only credits incurred before 1991. Furthermore, in principle no further credits can be extended to firms taking advantage of the LSNC unless improvement in results is foreseen and real collateral is established. In practice these restrictions have not been carefully followed.

³⁸ Because risk is so difficult to assess in the present environment, typically banks rely heavily on collateral to protect themselves. But even this approach can be flawed. The process involved in seizing the property is usually lengthy and painful. Furthermore, information about liens against property might not be comprehensive. This has enabled some borrowers to take out more than one loan against the same collateral. To protect themselves many banks have demanded collateral which is significantly greater than the value of the loan. These higher collateral demands have created an additional barrier that private entrepreneurs must overcome in order to obtain bank credit requirements.

³⁹ The new accounting system which has been implemented in mid-1993 is more detailed with respect to private and state enterprises. According to preliminary data based on the new system in mid-1995, credit extended to the private sector has been BGL 145 billion, and credit extended to the nongovernment sector has been BGL 149 billion. This means that recently relative share of credit extended to the private sector is increasing. It also suggests that credit for the private sector accounted under the old accounting system might have been underestimated to some extent.

ary environment which make bank loans problematic for business people who wish to engage in production. When nominal interest rates reach levels of 80% or more, the borrower may be forced to pay back an amount almost equal to the original sum borrowed within a year. Although this may not be a problem for traders who are borrowing money to increase their inventories for a temporary period of time, it can cause major cash flow problems for someone engaged in production. At the end of one year a new firm might barely be producing anything at all. Without production there is no way that sufficient revenue can be generated to pay the interest on a loan of 80%.⁴⁰

One alternative to this dilemma is for banks to make equity investments in firms so that there need not be any interest repayment at the end of the first year. This eliminates the cash flow problem of firms associated with loans. It creates, however, issues for the banks regarding solvency as the risk of holding equity is greater than the risk of holding fixed interest bonds. For example, in countries where good secondary markets exist for both corporate bonds and equity, there is much greater volatility in the prices of common stock shares than there is in corporate bonds. The value of equity shares is much more dependent on the fortunes of firms than is the value of loans. Thus, empowering banks to make equity investments provides an alternative to loans, but it does so at the cost of greater risks to the banks. Capitalist countries differ greatly as to whether banks are permitted to purchase equity interest in nonfinancial institutions. For example, in the United States during the Great Depression concern that banks might invest in high-risk projects led to the passage of laws prohibiting banks from owning shares in nonfinancial enterprises (Mishkin, p. 59). At the present time, Bulgarian law permits commercial banks to hold equity investments which in total with banks' real estate and equipment cannot exceed the value of the owners' equity⁴¹ (Law on Banks and Credit Activity, April 1992, Article 29).

Finding solutions to these problems is important if the private sector is to grow and expand beyond the development of small largely self-financed businesses. There are two serious problems: (1) establishing

⁴⁰ As inflation has come down, nominal interest rates have also fallen, relieving some of these problems but initially creating others. At least at first, interest rates on loans have fallen less quickly than inflation. Real interest rates have risen.

⁴¹ If a bank seizes real estate, equipment or equity as collateral, it can hold such assets for a period of not exceeding three years.

proper incentives for banks to make loans to the private sector, (2) overcoming the informational problems associated with making loans in such an uncertain environment. Given the high risks that banks take in making loans, some encouragement to make private sector loans is probably warranted. Improvements in the implementation of bankruptcy laws and other contract laws that clarify the sharing of risks would be helpful. At this stage some form of partial government loan guarantees for private sector loans might be appropriate. For example, the government might agree to cover some percentage of future loan losses when private sector loans are extended.⁴²

Inexperience in granting loans and evaluating risk will still lead to serious mistakes. The development of better accounting and information systems should be encouraged. For example, systems where liens against collateral are recorded can reduce information problems. Whatever the problems created by the encouragement of more private sector loans the degree of resource misallocation will probably be less than the distortions presently caused by the existing biases toward state enterprise loans. These problems can only be overcome over time. Even well trained loan officers would have difficulty making loans under the present circumstances.

Issues in the Management of Liabilities

The liability side of the balance sheet describes how bankers acquire funds that can be loaned out. Banks prefer to acquire funds which require low interest payments and remain in the bank for long periods of time. Commercial bankers are far from powerless in managing the liabilities side of the balance sheet. By varying the interest rates they pay and the types of deposits they offer, banks can influence the deposits they receive. Furthermore, banks can obtain funds by borrowing money either from the central bank or from other banks.

In most countries demand deposits are an important part of the deposit base. In Bulgaria, because of the difficulties in transferring funds from one bank to another, the size of transactional accounts is relatively small. The development of the BISERA system for transferring funds be-

⁴² *The government has done this in agriculture. See Petranov (1994). It is important that government provide only some form of guarantees. Providing low interest loans only distorts the allocation of resources.*

tween banks in a shorter period of time should make these accounts more attractive.

Another important source of funds for the commercial banks is borrowing funds from the BNB. This borrowing takes a number of forms but all falls under the general category of “refinancing.” Borrowing from the BNB allows the money supply to expand. (Further explanation of this mechanism appears below, in Chapter VII.) For this reason the BNB needs to keep careful control over the amounts of money it lends to the banks.

Another form of borrowing is from one bank to another. The principal mechanism for this borrowing and lending among banks is the interbank money market. On this market banks which have no use for some of their funds are able to sell their deposits to other banks who need the funds in order to make additional loans. The establishment of this market in 1991 greatly increased the efficiency of the banking system since it made it possible for funds to be transferred to banks which had the best use for them. The price in the market is the interest rate which one bank pays another for borrowing the funds. The interest rate is a market rate which reflects the supply and demand for loanable funds. Higher interest rates reflect more restrictive credit policies in the economy as banks compete for more limited funds.

The ability of banks to attract deposits depends on the confidence that people have in the bank. If people think that their money is safe, then they will be more willing to entrust their money with the bank. In many countries bank deposits are protected by some form of government guarantee. If the bank fails, individuals know that their money (or part of their money) will still be returned to them.

At present the only bank in Bulgaria which offers an explicit government guarantee on deposits is the State Savings Bank. When the Yambol Bank failed, however, the government protected deposits. So there appears to be implicit government protection as well. Still, because of its explicit guarantee, the State Savings Bank has a competitive advantage relative to other banks in attracting deposits. An important question is whether this guarantee should be expanded to other banks in the system or eliminated all together. The dangers of expanding the guarantee are clear from experience in the United States during the 1980’s when such guarantees led to a gross misallocation of resources (Mishkin, pp. 254-56). On the other hand, the guarantees provided stability for the US

banking system for a period of more than 40 years after the Great Depression.

Building confidence in financial institutions is important at this stage of the transition. Providing deposit guarantees can be an important way to attract funds into the banking system where records can be kept of payments among economic agents. Still these funds can be misused if banks are not properly supervised and a well-designed regulatory structure is in place. Presently such a structure does not exist and the dangers of deposit guarantees are great. However, a goal for the development of a regulatory structure should be the possibility of establishing a deposit guarantee so that banks will be able to attract more savings from the public.

A clear distinction needs to be made between financial institutions which are protected by some kind of guarantee and those which are not. The public needs to be aware of the difference.⁴³ Before protecting any institution proper supervisory structures need to be in place. This suggests that implicit guarantees be made explicit so the full exposure of the government can be assessed. When new guarantees are contemplated, they should be granted slowly to new institutions which are prepared to report accurate information which can be properly evaluated by regulators. While new entry of financial institutions makes the financial sector more competitive, implicit deposit guarantees for new poorly supervised banks can create a time bomb waiting to cause enormous future problems.

Role of Commercial Banks

Commercial banks perform two important functions in the Bulgarian economy. First, deposits of the banks are part of the money supply. Secondly, banks are financial intermediaries which pass funds from savers to investors. Until other financial institutions develop, banks will have tremendous influence on future investment in Bulgaria and the development of the Bulgarian economy. Important improvements in the banking system have been made since the transition to a market economy began, but there are still very serious problems which must be solved. We have

⁴³ *Unfortunately, one of the best ways to make such distinctions clear is to have a dramatic lesson where people lose money when an unprotected institution fails.*

noted the ways in which the current financial system is unable to meet many of Stiglitz's requirements for a market economy. Investment is the key to future economic prosperity. If poor investment decisions are made, future growth of the Bulgarian economy will be seriously impeded.

The supply of money and credit in the economy is determined by an interaction between commercial banks and the BNB. In this section we describe this interaction and develop a formula which describes how the money supply is determined in Bulgaria. We begin with a description of the transaction settlement system that is now being used in Bulgaria. This is followed by a discussion of the relationship between the BNB and the commercial banks as defined by the law on commercial banking. Finally, a modified version of the standard money supply formula is derived.

Transaction Settlement System

Before the movement toward a market economy, there was no need to quickly clear transactions through the banking system. The banks performed the accounting procedures used by the central planning system, but not the type of transaction service essential in a market system. It was not uncommon for transactions to take several weeks to clear. To meet the demands of the changed environment, the BNB has implemented the BISERA electronic gross settlement system which is designed to provide clearance of lev transactions within the banking system within three days. BISERA does not encompass transactions in foreign currency, however. So there are actually two ways transactions are cleared depending on the currency used.

To understand how transactions are recorded within the banking system we describe a series of examples. In each case the payer is Balkantourist and the payee is Balkan Air. What changes in each example is where these two firms hold their accounts.

Payee and Payer at the Same Bank: The simplest situation is when the payee and the payer have accounts at the same bank. In this circumstance it does not matter whether the payment is made in levs or in foreign currency (dollars). Suppose that both Balkantourist and Balkan Air have accounts at United Bulgarian Bank (UBB). Balkantourist makes a payment to Balkan Air of BGL 130,000. Money must be deducted from the Balkantourist account and credited to the Balkan Air account. This transaction can be recorded on the T-account of UBB:

UBB

Assets	Liabilities
	Balkantourist – BGL 130,000
	Balkan Air + BGL 130,000

The responsibility for transferring these funds from one account to the other is totally the responsibility of UBB. No other bank is involved in this process.

Payee and Payer at Different Banks: When Balkantourist and Balkan Air have accounts at different banks, transaction clearance becomes more complicated. The BISERA system is used and the banks utilize their settlement accounts at the BNB to clear the transaction. Suppose instead of banking at UBB, Balkan Air has an account at Mineralbank.⁴⁴

Since Balkantourist still has an account at UBB, the payment will still have to be made from this account. The transaction begins when Balkantourist gives UBB an instruction to make payment to Balkan Air. Under the BISERA system, the account of Balkantourist is reduced by BGL 130,000 and the UBB account at BNB is reduced by BGL 130,000. These entries should be made at the end of the first day or UBB will be penalized.

UBB

Assets	Liabilities
Dep. Acct. at BNB – BGL 130,000	Balkantourist – BGL 130,000

It is BNB's responsibility to make the next two entries. First, on its own balance sheet it records the corresponding entry to UBB's entry showing that UBB's account at the BNB has been reduced by BGL 130,000. Since Balkan Air has an account at Mineralbank, the levys in UBB are transferred to Mineralbank.

BNB

Assets	Liabilities
	UBB – BGL 130,000
	Mineralbank + BGL 130,000

⁴⁴ There are several methods of clearing transactions under the BISERA system. We describe direct transfers. A detailed description of BISERA can be found in the operations manual.

Mineralbank now records the increase in its account at the BNB and credits the account of Balkan Air.

Mineralbank			
Assets		Liabilities	
Dep. Acct at BNB	+ BGL 130,000	Balkan Air	+ BGL 130,000

The money has now been transferred from Balkantourist to Balkan Air. Under the Biseria system, each stage takes no more than one day so the whole process should take no more than three days. This is a great improvement over the previous system, where the process of clearing a transaction could be very lengthy.⁴⁵

A Money Supply Formula for Bulgaria

The money supply in Bulgaria is determined by the interaction of the commercial banks and the BNB. The process is essentially the same as any country that uses a reserve system. Once a commercial bank acquires reserves, the bank can loan this money to nonfinancial borrowers and create additional deposits at the bank. This adds to the money supply. A description of how additional bank reserves will cause the money supply to grow can be found in any standard money and banking textbook.

Our purpose here is to describe the special features of the Bulgarian banking system and show how these features alter the way in which the money supply is determined. There are two significant ways in which the Bulgarian model differs from the model in the United States.⁴⁶ (1) Foreign currency deposits have a much larger role in the money supply. (2) Only part of cash in the vault can be used to satisfy the reserve requirements. In the United States all cash in the vault of the commercial banks is also used to satisfy the reserve requirement.⁴⁷

⁴⁵ It might be noted that this procedure is the opposite of the check clearing system used in the United States. In the United States the first entries are made at the bank receiving payment since the check is deposited by the payee.

⁴⁶ The first edition of this monograph described a third difference, credit ceilings. Credit ceilings were used as a tool for monetary control. The credit ceilings were abandoned in July 1994.

⁴⁷ Coates (1992) also develops a similar money supply formula but does not attempt to bring it fully in line with present Bulgarian conditions. Coates then provides an excellent discussion of the problems of implementing monetary policy in the present environment.

To derive a formula for the money supply in Bulgaria, it is easiest if we envision a formula for broad money (M2). Let **D** describe the total level of lev deposits. This would include all demand deposits, savings deposits, time deposits in lev. Foreign currency deposits will be **D^F**. The total money supply would then be:

$$\mathbf{M2} = \mathbf{Cp} + \mathbf{D} + \mathbf{D^F} \quad (1),$$

where

Cp is the amount of cash in the hands of the public. Consistent with the definition of broad money used by the BNB this cash holding does not include foreign currency that circulates in the economy.

In the standard construction of the money supply formula the central bank controls movements of the money supply by exercising control over the monetary base (**MB**). The monetary base is the sum of two liabilities of the central bank: cash (**C**) and commercial bank deposits at the central bank (**Dc**). The central bank controls the monetary base and the commercial banks determine whether they wish to hold cash or deposits at the central bank. In other words, the commercial banks are free to deposit or withdraw cash from the central bank at any time. From the definition of the monetary base we have:

$$\mathbf{MB} = \mathbf{C} + \mathbf{Dc} \quad (2).$$

In the Bulgarian context there are three special aspects to the commercial bank's decision to hold cash or deposits at the BNB. First, vault cash is only partially included in the calculation of bank reserves so banks will want to minimize the amount of vault cash they hold. Secondly, reserve accounts and settlement (clearing balance) accounts at the BNB are separate so banks will have to hold additional deposits, over and above their reserve accounts, to process settlements. For this reason we will distinguish between reserve deposits at the BNB (**Dr**) and deposits held for settlement purposes (**Ds**).⁴⁸ The third element is foreign currency deposits at the BNB, **Df**. Banks will want to minimize these deposits if they cannot be counted toward the reserve requirement, but when they can be used to satisfy the reserve requirement, banks will want to make such deposits. The sum of these three elements is total bank deposits at the BNB.

$$\mathbf{Dc} = \mathbf{Dr} + \mathbf{Ds} + \mathbf{Df} \quad (3).$$

⁴⁸ The separation is not absolute since banks can overdraft their settlement accounts up to the limit of their reserves (Filipov, 1992). The volume of overdrafts have increased dramatically recently. It is now a major form of refinancing.

All cash issued by the BNB will also be cash in the hands of the public (**C_p**) or be vault cash (**C_v**) held by commercial banks. So

$$C = C_p + C_v \quad (4).$$

Let **r** represent the percentage of their demand, savings, time and foreign currency deposits that banks are required to keep in the their reserve accounts at the BNB. Then the relationship between their required reserves, **R**, and total deposits, **D**, will be:

$$R = r (D + D^f) \quad (5).$$

There are three assets that banks can use to satisfy this requirement. The first is reserve deposits, **D_r**. The second is vault cash which can partially be counted. Let **k** be the percentage of vault cash, **C_v**, that banks are allowed to use to satisfy the reserve requirement. Then **k C_v** will be the share of vault cash included as reserves.

Commercial banks are permitted to use foreign currency deposits at the BNB to partially satisfy the reserve requirement (e.g. *BNB News Bulletin*, No. 8, 1994). For example, if a commercial bank holds foreign currency deposits of USD 100,000, the commercial bank can deposit some of these dollars at the BNB to satisfy the reserve requirement. Suppose the reserve requirement is 10%. This bank needs to hold USD 10,000 in reserves. If the limitation is 20%, USD 2,000 (20% x USD 10,000) in reserves can be in the form of dollar deposits at the BNB. The percentage limitation of foreign currency reserves has changed several times recently. For simplicity we will assume that commercial banks deposit foreign currency at the BNB only to the extent that it satisfies the reserve requirement, but they also take full advantage of opportunities to use foreign currency deposits when regulations permit.

$$D_f = r g D^f \quad (6),$$

where **g** is the percentage limitation on foreign currency reserves.

Allowing foreign currency deposits at the BNB to be included among reserve deposits changes the level of control that the BNB can exercise over the money supply. If **g** = 0, the BNB has full control over the monetary base. Decisions by commercial banks to add to their lev deposits at the BNB can only come from cash holdings of lev. *Such actions do not affect the size of the monetary base.*

By contrast, foreign currency deposits come from outside the Bulgarian economy. If **g** > 0, decisions by commercial banks to increase their foreign currency deposits at the BNB and include them in their reserves *will increase the size of the monetary base.* If the BNB tries to control the

size of the monetary base, the BNB must offset the increases due to additional foreign currency deposits by reducing other elements of the monetary base. Chapter VII describes actions the BNB can take to control the monetary base.

Adding up the three elements that can be used to satisfy the reserve requirements we have

$$\mathbf{R} = \mathbf{k} \mathbf{Cv} + \mathbf{Dr} + \mathbf{Df} = \mathbf{k} \mathbf{Cv} + \mathbf{Dr} + \mathbf{r} \mathbf{g} \mathbf{D^F} \quad (7).$$

Combining equations (5) and (7), we have

$$\mathbf{Dr} = \mathbf{r} \mathbf{D} - \mathbf{k} \mathbf{Cv} + \mathbf{r} (1 - \mathbf{g}) \mathbf{D^F} \quad (8).$$

If equations (8) and (6) are substituted into equation (3) and then equations (3) and (4) are substituted into equation (2), we have

$$\mathbf{MB} = \mathbf{Cp} + (1 - \mathbf{k}) \mathbf{Cv} + \mathbf{r} \mathbf{D} + \mathbf{r} \mathbf{D^F} + \mathbf{Ds} \quad (9).$$

If we factor $\mathbf{D}$ from the left side of equation (8), we obtain

$$\mathbf{MB} = [\mathbf{cp} + (1 - \mathbf{k})\mathbf{cv} + \mathbf{r} + \mathbf{r} \mathbf{d^F} + \mathbf{ds}] \mathbf{D} \quad (10),$$

where $\mathbf{cp} = \mathbf{Cp/D}$, $\mathbf{cv} = \mathbf{Cv/D}$, $\mathbf{d^F} = \mathbf{D^F/D}$ and $\mathbf{ds} = \mathbf{Ds/D}$. Each of these ratios has an important role to play in the money supply formula. For example, $\mathbf{cp}$ depends on consumer behavior. It reflects the public's desire to hold cash rather than deposits. Cash is the principle method of payment for transaction conducted by individuals. The $\mathbf{cp}$ ratio depends on how easy it is to withdraw money from a bank and the interest rate on deposits. Cash pays no interest so people holding cash are foregoing the interest payments they otherwise would receive on their money.

The ratios, $\mathbf{cv}$ and $\mathbf{ds}$, relate to bank behavior. Banks need to retain cash in the vault to service the demands of their depositors for withdrawals. Banks also need to keep minimum balances in their settlement accounts at the BNB so that transactions can be processed through the BISERA system. Since banks earn low interest on the settlement accounts and no interest on the cash in their vaults, they will want to keep these balances at low levels so they can loan out as much money as they can at higher interest rates.

The other ratio $\mathbf{d^F}$ will depend on two factors: (1) the preferences for foreign currency balances relative to balances in lev by depositors and (2) movements in the exchange rate. In 1994 there were dramatic shifts in these preferences when the lev depreciated in the spring and there was fear that further depreciation would occur in the fall. During other periods when the lev was more stable and interest rates on lev accounts were higher than interest rates on foreign currency accounts, people moved more of their money into lev accounts.

The exchange rate will also influence d^F because the formula is calculated in lev. When the lev depreciates, d^F rises because the lev value of foreign currency deposits rises relative to the value of lev deposits. It should be noted that g does not appear in formula. This effect will occur whether or not g is positive.

The level of deposits, D , can be found by rewriting equation (10):

$$D = MB/[cp + (1-k)cv + r + r d^F + ds] \quad (11).$$

The total money supply can then be found by noting that equation (1) can be adjusted so that $M2$ is expressed in terms of these ratios

$$M2 = [Cp/D + D^F/D] D + D = (cp + d^F + 1) D \quad (12).$$

Then the money supply formula is:

$$M2 = MB [cp + d^F + 1]/[cp + (1 - k)cv + r + r d^F + ds] \quad (13).$$

With small modifications this formula is the same as the one used in the United States. The main additions reflect the regulations regarding bank reserves and the incorporation of foreign currency deposits in the formula. To understand how the money supply is controlled it should also be acknowledged that foreign currency deposits are included in MB when $g > 0$.

Equation (13) illustrates that as long as there are certain regularities in these ratios, the reserve requirement remains constant, and movements in foreign currency deposits at the BNB are offset by other BNB actions, the money supply can be controlled by movements of the monetary base. Even if these ratios change in a predictable way, the monetary authorities can compensate by adjusting the monetary base.⁴⁹

The formula can also be used to illustrate the effects of recent events and policy changes, but care must be taken in making predictions.⁵⁰ For example, the recent decision to allow banks to include part of their vault

⁴⁹ Shifts in cp may reflect other changes in the economy which can make life more difficult for the monetary authorities. As preferences change for different types of money, velocity changes. This can make the relationship between money growth and inflation more unpredictable. Under these circumstances, monitoring money growth may not be a sufficient guide to good policy decisions. Velocity changes will also have to be understood.

⁵⁰ If the formula is used to predict the effects of changes in one of the ratios, it is important to understand what it means to assume that the other ratios remain constant. These ratios are defined relative to demand deposits in lev. When a change affects the amount of demand deposits in lev, the formula assumes that cash holdings of the public, vault cash, settlement deposits and foreign currency will all adjust proportionally. In many instances there are good reasons to believe that this will not always happen.

cash as reserves increased k . This increased the money supply.

At this point we can also describe the effects of lev depreciation on the money supply.⁵¹ If $g = 1$, banks will be holding reserves in foreign currency balances at the BNB. A depreciation will increase the value of their deposit liabilities, but it will also increase the values of their reserves at the BNB. The increase in the value of their reserves will be just enough to offset the increase in their required reserves. The commercial bank will not be required to take any further action. The monetary authority might be concerned, however, because the monetary base has expanded and along with this the money supply is also larger.

This example helps illustrate why the BNB has had difficulty making a decision about permitting banks to hold foreign currency as part of required reserves. Increasing g gives the BNB less direct control over the monetary base. On the other side, commercial banks prefer to keep a balance between their assets and liabilities dominated in foreign currency. This lowers their exchange rate risk (i.e. the risk that devaluation of the lev will cause the value of their foreign currency liabilities to rise while corresponding assets in lev remain unchanged.)

If $g = 0$, the situation is very different. Devaluation of the lev still increases the required reserves (in lev) the banks must hold, but the value of their reserves will not change when the depreciation occurs. Banks will have to add to their reserves to meet the requirement. The monetary base is not affected by the depreciation so it may be very difficult for banks which do not have excess reserves to find the needed money to satisfy the reserve requirement.

Individual banks may borrow money on the interbank market to satisfy the reserve requirement. Unless the monetary authority expands the monetary base, however, other elements of the money supply will have to contract. Normally, banking systems contract by reducing the amount of outstanding loans, but a sharp depreciation of the lev may make such a dramatic contraction infeasible.

Allowing banks to keep some reserves in the form of foreign currency creates a mechanism which partially adjusts automatically when the lev depreciates. So while the BNB loses some measure of control over the

⁵¹ We do not make direct reference to the money supply formula at this point because the assumptions underlying the constant ratios for the other variables seem unrealistic when depreciation occurs.

money supply by choosing a $g > 0$, it also prevents monetary policy from becoming overly restrictive when depreciation occurs.

Conclusion

In this chapter we have seen how the standard money supply formula can be used to describe the situation in Bulgaria. From this formula we can see that control over the monetary base allows the BNB to control the money supply. By allowing foreign currency deposits to count as reserves against deposits, the BNB loses some control over the monetary base, but it also provides a mechanism which can ease the contractionary pressures created when depreciation occurs. In the next chapter we describe how the BNB controls the monetary base.

In Chapter VI we saw that the money supply is determined by the money supply formula. Analysis of the formulation revealed that the money supply is most directly affected by changes in the monetary base. One central issue for the implementation of monetary policy in Bulgaria, then, is how well the BNB is able to control the monetary base. Many of the instruments that are used to control the monetary base in developed economies depend on the existence of financial markets which did not exist in Bulgaria before the transition. As financial markets expand, the BNB will have more possible instruments from which to choose.⁵²

We will argue that while the BNB can exercise considerable control over the monetary base through changes in its refinancing policies and more recently in its open market operations, there are other activities over which the BNB has less control. These also influence the monetary base. The most important of these other activities are the direct financing of government deficits and BNB's intervention in foreign currency markets. First, we describe the impact of government debt financing and foreign currency operations. Then we analyze how much control the BNB can retain by employing refinancing and open market operations to offset some of the effects of the other activities.⁵³

A second important element of monetary policy is interest rates. The BNB has tremendous influence on interest rate charged for (Lombard) loans extended to commercial banks and on direct loans to the Ministry of Finance. In economies with well developed capital markets there is a close connection between money supply growth rates and interest rates. For example, in the United States the Federal Reserve influences interest rates by buying and selling government securities. In Bulgaria the linkage between interest rates and monetary growth rates is not as close. After discussing various actions which influence the money supply, we discuss the impact that interest rates have on economic activity.

⁵² Filipov (1992) describes the instruments that the BNB is presently using to carry out monetary policy. He also provides a useful history of when many of these instruments were first utilized.

⁵³ For an analysis of the effectiveness of monetary policy at the beginning of 1992, see N. Georgiev and N. Gospodinov (1992).

Direct Financing of Government Debt

The BNB helps the government finance its debt by making direct loans to government. Sometimes analysts refer to this as “printing money” to cover government deficits. In actual fact the process is a little more complicated than this, but the effect is indeed much the same as it would be if the BNB had a printing press and simply printed more levs to pay government workers. When the government borrows money from the BNB, this increases the size of the monetary base, and as we have seen, these increases in the monetary base cause the money supply to expand.

These changes can be depicted on T-accounts for the BNB and the government. The government’s loan from the BNB will appear as a liability of the government and an asset of the BNB. In return the government receives money placed in its account at the BNB.

Government

Assets		Liabilities	
Dep. Acct. at BNB	+ BGL 1,000,000	Loan from BNB	+ BGL 1,000,000

BNB

Assets		Liabilities	
Loan to Government	+ BGL 1,000,000	Government	+ BGL 1,000,000

At this point there has been no change in the money supply, but the government has not made any expenditures yet. If the government makes a payment for office equipment, then the government’s account at the BNB will fall as cash is withdrawn to make a payment to the store. This will create a second set of entries.

Government

Assets		Liabilities	
Office Equipment	+ BGL 1,000,000		
Deposit at BNB	– BGL 1,000,000		

BNB

Assets		Liabilities	
		Government	– BGL 1,000,000
		Cash	+ BGL 1,000,000

At this point the monetary base increases because cash outstanding is part of the monetary base. If the monetary base increases, the money supply will increase. Thus, the government's decision to borrow money from the BNB to pay for office equipment causes the money supply to expand.

The BNB has limited control over the level of direct government borrowing. Rather, the Parliament sets an annual limit for direct government borrowing. Even when the government has needs which exceed this amount, the BNB has had difficulty in controlling the level of credit it eventually extends. If the BNB wants to control the level of the money supply, it must use other tools to offset the effects of government borrowing on the monetary base. Direct financing of the government debt is undesirable for BNB given bank's anti-inflationary policy and since the beginning of 1995 it has been abandoned.

Foreign Currency Operations of the BNB

The BNB has been active in the foreign currency markets trying to smooth the exchange rate movements of the lev. While Bulgaria does not have a fixed exchange rate, the BNB has intervened in the market so that movements in the lev are less dramatic than they otherwise would be. In late 1993 and then again in the spring of 1994 there were foreign exchange "crises" where there were dramatic depreciations in the value of the lev. During these periods the BNB was very active in the foreign exchange market trying to control the price of the lev. Over time these activities have caused considerable fluctuations in the amount of foreign currency reserves held by the BNB.⁵⁴

When the BNB enters the foreign currency market, it is buying or selling foreign currency, but it is also buying or selling levs. For example, if the BNB buys US dollars, it pays for these dollars in levs. When it pays in levs, the BNB increases the monetary base, causing the money supply to increase. This can be seen on the T-account of the BNB.

⁵⁴ *There are also other activities which have a big influence on the foreign currency position of the BNB but do not affect the monetary base. The International Monetary Fund (IMF) has provided support to Bulgaria to help it through the transition. These credits increase the foreign currency reserves of the BNB (gross reserves, not net reserves, since these are loans from the IMF). Payments on Bulgaria's foreign debt must also be in foreign currency. These payments reduce the size of the foreign currency reserves of the BNB.*

BNB

Assets		Liabilities	
Foreign Currency Reserves	USD 10,000	Cash	+ BGL 650,000

The increase in cash increases the monetary base and the money supply.

Conversely, foreign currency transactions can also reduce the money supply. If the BNB decides to sell dollars, then the monetary base will shrink. The problem here is that the desire to smooth currency fluctuations will have an influence on the money supply, and the resulting change in the money supply may not be desirable from the perspective of the BNB. The BNB then needs to offset these changes using another monetary policy tool.

The BNB has been actively controlling the movements of the foreign exchange rate to smooth the movements on the foreign exchange markets. When the BNB tries to prevent the lev from appreciating in value, the BNB buys a convertible currency like US dollars and pays for it with levs. This expands the monetary base. If the BNB does not want the money supply to expand, it can sell government securities to offset the increase in the monetary base. This is called sterilization.

Refinancing

Refinancing is commercial bank borrowing from the BNB.⁵⁵ Refinancing takes a variety of forms under a variety of conditions. In each case, however, the basic accounting and the effect on the money supply is the same. An increase in refinancing increases the monetary base. This is shown in the following T-accounts, in which UBB's deposit at BNB adds to the monetary base.

UBB

Assets		Liabilities	
Dep. at BNB	+ BGL 10,000	Loan from BNB	+ BGL 10,000

⁵⁵ This is very different from the way this term is used in the United States. In the U.S. refinancing usually refers to the refinancing of a loan (i.e. mortgage) where the borrower pays off the original loan and then takes out another.

BNB

Assets	Liabilities
Loan to UBB	+ BGL 10,000 UBB
	+ BGL 10,000

Over time there has been a shift from early forms of refinancing such as moratorium, conversion and other deposits toward discount loans, interbank deposits which are sold at auction, and Lombard loans.⁵⁶ During 1994 the deposit auctions ceased and the combination of Lombard loans and overdrafts constituted more than 90% of all financing.⁵⁷

Discount loans: These are loans made from the BNB to commercial banks. Bills of exchange and promissory notes are used as collateral to secure these loans. In many ways these are similar to discount loans made in the United States. By increasing the monetary base they enable banks to expand the amount of loans they make.

Lombard loans: Refinancing loans made with specific forms of collateral are known as Lombard loans. At the end of 1994 almost 80% of all refinancing was in the form of Lombard loans. The most important collateral for Lombard loans is government securities. Banks can borrow up to 60% of their government securities holdings. The interest rate on Lombard loans is equal to the central bank base rate of interest. Since government securities are the most common form of collateral, the difference between interest rates paid on government securities and interest rates charged for Lombard loans can affect bank profits. The interest rate on government bonds is determined in the government securities market. When the rate on government bonds rises above the base rate, banks can make a profit by borrowing at the lower Lombard rate and buying gov-

⁵⁶ *Moratorium and conversion were loans made for specific purposes. Moratorium is a carryover from an earlier attempt to refinance banks to allow them to extinguish nonperforming loans. Conversion was money for military conversion. Direct refinancing were deposits (i.e. loans) placed with banks who had specific needs.*

⁵⁷ *The interbank deposit auction should not be confused with the interbank money market which is still very active. In the interbank money market loans are made among banks. From the viewpoint of the banks borrowing money, it does not matter greatly whether the money comes from another bank or the BNB. In either case the bank acquires deposits at the BNB which can then be used to make loans. For this reason banks which need to borrow funds will attempt to borrow in the market with the lowest rates. However, trades on the interbank money market **do** differ from loans from the BNB in that there is no effect on the money supply. Deposits are only moved from one bank to another.*

ernment bonds which pay a higher rate. The availability of Lombard loans can, therefore, increase bank demand for government securities.

Recently the interest rate on government securities has been above the base rate, *but* most of the Lombard loans use LSNC bonds for collateral. These LSNC bonds are government bonds which were issued to replace bad enterprise debts on bank balance sheets and pay only one-third of base rate of interest. Thus banks which use these bonds for collateral are paying much more interest on the Lombard loans than they are receiving in interest on the government bonds. These loans are very costly to the banks. The banks would be much better off selling the bonds. But the banks can only sell these bonds at a loss, since they pay so little interest. In December 1994 92% of all Lombard loans were extended to just two banks. 94% of Lombard loans used LSNC bonds as collateral.

Unsecured deposits: These are BNB's deposits with the commercial banks against which there is no collateral. This monetary policy instrument is used when a certain bank has temporary difficulties and in this case BNB is lender of last resort. The recent tendency for increase of the amount of unsecured deposits is an indicator for worsening of the situation in some banks.

By varying the amount of refinancing, the BNB can influence the monetary base. Sometimes these operations can be used to offset the impact on the money supply of other activities such as direct government borrowing. At other times adjustments in the amount of refinancing can be used to set a new course for monetary policy.

Open Market Operations

Open market operations are the purchase and sale of government securities by a central bank. In 1993 the BNB began to engage in open market operations. This became possible as both a primary and secondary market for government securities developed. Having a good secondary market in government securities also makes it easier for the government to sell government bonds on the primary market since economic agents are always willing to hold a lower interest paying asset if it is more liquid.

Since the middle of 1994 when credit ceilings were abandoned, the BNB has used open market operations as the major tool for controlling the money supply. Recently the market for government securities has expanded dramatically as the BNB has become much more active.

The impact of open market operations is to change the monetary base. For example, if the BNB sells government securities and these securities are purchased by UBB, then the T-accounts will be as follows:

UBB			
Assets		Liabilities	
Dep. at BNB	– BGL 100,000		
Gov. Securities	+ BGL 100,000		

BNB			
Assets		Liabilities	
Gov. Securities	– BGL 100,000	UBB	– BGL 100,000

This transaction reduces UBB's deposits at BNB, which lowers the monetary base.

Open market operations can be used when the BNB wants to expand the money supply more slowly or more rapidly. However, many open market actions undertaken by the BNB are defensive. These are actions which are used to offset the effects of other BNB activities as is the case with controlling the movements of the foreign exchange rate. The largest share of the open market operations is due to repo-operations⁵⁸ – about 94% of the total volume. The average period of a repo-operation is 10 days.

Recently some large banks have been in serious financial difficulty because of the bad state-enterprise loans. When the bad loans were converted to government securities under the LSNC these difficulties became more transparent and the BNB made loans to these banks through various refinancing arrangements, i.e. Lombard loans and overdrafts. As we have seen, however, refinancing also increases the monetary base. The BNB can counteract the effects on the monetary base of this refinancing by selling government securities.

BNB's flexibility in engaging in defensive operations is limited by the size of the government securities market and the willingness of other economic agents to purchase government securities. As this market expands, it will be easier for the BNB to carry out these policies. Presently

⁵⁸ *Repurchase agreements.*

the BNB must sell many of its government securities with repurchase agreements. Under these agreements the BNB guarantees that it will repurchase the bond. If the government securities markets were more liquid, this would not be necessary since the bank would be confident that it could resell the bond whenever it needed greater liquidity.

Interest Rate Policy

Another tool which the BNB can use to influence the flow of credit into the economy is adjustment of interest rates. Through changes in the central bank base rate, the BNB can influence the entire structure of interest rates. In February 1991 the basic interest rate jumped to 45% from 4.5% at the beginning of January 1991 and 15% on January 15th. From September 1991 until June 1992 the rate was 54%. In 1994, a year of high inflation, the base rate was raised and at the end of the year it was close to 72%. In 1995, as inflation came down, the BNB lowered the base rate in a series of steps and it stood at 44% at the end of June.

The movements of the base rate have reflected changes in inflationary conditions. While nominal interest rates since early 1991 appear quite high, for much of this period the real base interest rates have been negative. Nominal interest rates on time deposits in banks have been below the base rate and in real terms even more negative. Negative real interest rates discourage savings and encourage consumption.

In Bulgaria where there is still very little private property, people have very few options for escaping the negative real returns they receive on their bank deposits. One of the few options is foreign currency deposits. But the value of these deposits has also fallen in real terms since late 1991. Foreign currency deposits can also be a risky option. In spite of high inflation since early 1991, there have long periods of rather stable nominal exchange rates broken by sudden sharp depreciations. The lack of other assets for holding wealth has probably meant more speculation in foreign currency markets than might otherwise have been the case.

On the other side of the savings and investment nexus, the high nominal rates and the negative real rates have had some perverse effects. Interest rates should function as a price which rations the available amount of credit. If rates are high, some borrowers should be discouraged and not seek loans. Unfortunately, the high nominal rates created serious difficulties for many state enterprises which had large debts before the nominal rates were increased. When the nominal rates suddenly increased, this

unanticipated change in their debt burden placed these enterprises in a very difficult position. Even potentially viable enterprises have found it difficult to survive. Rather than place these loans in default, banks continued to loan to these enterprises so that they could pay the higher interest on these loans. The higher interest rates had the strange effect of increasing the amount of loans the banks had to advance to enterprises so that the enterprises could pay the interest back to the banks (OECD, 1992).

High interest rates have not discouraged state enterprises from borrowing, but private business has seen the high rates as onerous. This, along with the higher risks banks face in loaning to the private sector has inhibited the expansion of loans to this sector.

The bad loan problems in the banks have created a large gap between deposit rates and loan rates. This gap increased in 1994 when the LSNC was enacted and the problems of the banks clarified. The gap on monthly interest rates reached 2.1% in November 1994. (When compounded this would be 28% on an annual basis.) (BNB Annual Report 1994, p. 69) A large gap between deposit rates and loan rates makes it difficult to create positive real interest rates on deposits and keep loan rates low enough to encourage investment.⁵⁹

General Policy Trends

With the development of open market operations, the BNB now has a set of tools which should make it possible to exercise considerable control over the money supply. The major problem the BNB faces in controlling the money supply is the effect of direct government borrowing. The large government deficits continue to be financed by “printing money.” The pressure to assist in the financing of government deficits continues to raise the monetary base and the money supply. Until this pressure subsides, it will be difficult for the BNB to gain control over monetary growth.

The position of the International Monetary Fund (IMF) as regards monetary policy is described by Coates (1992). The IMF recognizes many of these difficulties and has established targets for government

⁵⁹ McKinnon (1993) finds that large gaps between deposit rates and loan rates discourage capital deepening. This hinders the development of financial markets and severely retards growth in developing countries.

deficits. The hope is that with new taxes such as the value added tax which was implemented in the spring of 1994 the government can keep its borrowing within certain limits. If so, the growth of the money supply can be reduced over time so that the inflation can be reduced. Besides the government deficits hidden deficits financed on the expense of the decapitalization of the commercial banks put pressure on the monetary policy as well. In this sense the possibilities for BNB to carry out an anti-inflationary policy are strongly reduced by the worsening condition of some banks.

Another problem is the large gap between deposit rates and loan rates. This gap makes it hard to maintain positive real rates on bank deposits. Furthermore, loans continue to be made to state enterprises of questionable viability in a market economy.

Finally, good statistics continue to be a problem. It is difficult to carry out a successful monetary policy if you do not know what conditions the economy faces. New accounting procedures are now being implemented which should help clarify the position of the banks, but it will take time before these new accounting procedures are fully understood. National accounting figures are still weak especially in regards to private sector activity. These weaknesses in important statistical measures make it very difficult to carry out a reasonable monetary policy.

Bad Loans and the Law on Settlement of Nonperforming Credits

Origins of the Bad Loan Problems

Under the system of central planning that existed before 1989, credits were extended to state enterprises for investment purposes. Decisions as to how investment funds should be allocated were made very differently from what would occur in a market system. In a market system firms go to a bank and request a loan with the expectation on the part of both the banks and the firm that the loan will be repaid with interest. Under central planning, investment decisions were made centrally. Planners made credit decisions based on the objectives of the plan.

When the transition began, credits which had been extended to the state enterprises during this earlier period were transformed into formal loans. These loans now became important assets of the commercial banks.

If the state enterprises had been in a position to repay the loans, no problems would have arisen. Unlike normal loans, however, the borrowers in this case did not initiate the request for the funds with the intention of repaying them. The “loans” were created under a very different set of circumstances.

Two additional problems arose which made repayment of these loans especially difficult. When the economy suddenly moved away from central planning and CMEA trade collapsed, many state enterprises found themselves in a very difficult situation. Unaccustomed to marketing their goods, they found that the demand for their products dropped dramatically. Even if they had been in a position to repay the loans before the transition began, it was impossible to do so later.

Secondly, many of the loans were in hard currency. During the latter part of the 80s, Bulgaria borrowed heavily. This created a large foreign debt which has been difficult for Bulgaria to repay. When the money from these loans was allocated to the state enterprises, it was recorded in the accounts as hard currency loans to the state enterprises. If these loans had been in lev, they would have been much easier to repay after 1991. The very high inflation in 1991 would have greatly reduced the real

value of these loans.⁶⁰ Instead the value of these loans in lev rose dramatically when the lev depreciated.⁶¹

When the new banks were formed on the basis of former branches of the BNB, they inherited the portfolio of these branches, where these loans represented a very significant part of the total assets of these banks. In truth these assets were not real since the state enterprises were not able to pay back the principal or in many cases even the interest. This created a dilemma for the banks. If the banks acknowledged that these loans were never going to be repaid, they would have to declare these loans as bad loans. This would mean subtracting them from the asset side of their accounts. To balance this loss of assets they would have had to reduce their net worth as shown in the balance sheet below.

Bank A			
Assets		Liabilities	
SOE ⁶² Loan	– BGL 100,000	Net Worth	– BGL 100,000

If a bank has many bad loans, net worth may become negative. It soon became clear that if the bad loans from state enterprises were honestly reported, many Bulgarian banks would have been insolvent and would have to declare bankruptcy.

If this was an isolated problem with one or two banks, it might easily have been solved. Unfortunately, it was widespread and threatened the viability of the entire newly formed banking system. Rather than force the collapse of the entire system before a solution to the problem could be found, banking authorities did not compel banks to do a careful accounting of their bad loans. Bank balance sheets, therefore, did not represent the true situation.⁶³

⁶⁰ The nominal interest rate on lev loans was raised dramatically during this period. So it was not easy for state enterprises to repay these loans either.

⁶¹ See Dobrinsky (1994) for a more extensive discussion of this problem.

⁶² State-owned enterprise.

⁶³ It should be noted that Bulgarian banks are not the only banks that have misleading balance sheets. In the United States it was widely recognized in the 1980s that large banks which had made loans to South American countries were not making a full declaration of the extent of their bad loans. Banking authorities were very permissive because these banks were so large. Full disclosure of the scope of the problem might have caused serious disruption to the entire banking system. The valuation of these banks on the stock market, however, was very low relative to their reported earning. Thus, to some degree their accounts were disbelieved by potential purchasers of their shares.

Failure to account for the bad loans created other problems as well. The banks could justify their position that the loans were good loans and being properly serviced if the interest payments on these loans were being made. To pay the interest, the state enterprises needed money. The banks could accommodate them by lending them more money. Thus we can imagine a transaction like the following where the bank loans the enterprise money which it uses to pay interest on the original loan.

Bank A			
Assets		Liabilities	
(1) SOE Loan	+ BGL 80,000	(1) SOE Deposit	+ BGL 80,000
(2) SOE Deposit	– BGL 80,000	(2) Net Worth	+ BGL 80,000

There are two transactions described here. The first line in this T-account is the loan made to the state enterprise. The entries on the second and third lines (which are marked (2)) describe what happens when the interest is paid. Since the payment of interest on the loan adds to the profits of the bank, this income increases the net worth of the bank.

If the bank balances its assets and liabilities, the original bad loan is balanced by a deposit on the liability side of the account. The interest the bank must pay on this deposit will offset some of the profit it makes on the interest received on the enterprise loans. This loss is shown below as drop in net worth to the bank:

Bank A			
Assets		Liabilities	
		Customer deposit	+ BGL 40,000
		Net worth	– BGL 40,000

The combination of transaction shows that the net worth of the bank has increased by the difference between the interest received on the loan (BGL 80,000) and interest paid on the deposit (BGL 40,000). In this example, there is an increase in net worth of BGL 40,000. This makes it appear that the bank is profitable when indeed it is not.

The problem with this scenario is that the state enterprise is in no better position to pay the new loan (which was advanced to pay the interest) than it was to pay the old loan. Both of these loans should be considered bad loans and written off the books as bad assets. If this were done, the net worth of the bank would be reduced by the total amount of both

loans. The precarious position of the bank would then be clear from its accounts. As long as the bad loans are not acknowledged as such, the accounts cannot be used to assess the true situation of the bank.

The problem of bad state-enterprise loans was exacerbated by still another development. Many state enterprises which could not repay their loans were large enterprises employing many people. If these enterprises were unable to obtain additional credit, they would be forced to close. Their workers would lose their jobs and unemployment would increase dramatically. Even though these enterprises could not repay these old debts, they continued to come to the banks to borrow additional money to pay their workers. The government did not discourage this because there was real concern that so many people out of work would cause great social distress. Thus there was a tacit understanding between the banks and the government that the banks would be protected when these loans were not repaid. These loans became effectively low risk loans for the banks since they understood that defaults by state enterprises would be covered by the government. On the other hand, loans to the private sector received no such government protection. It became much harder for a private firm to obtain bank credit because state enterprise loans, being implicitly backed by the government, were perceived to carry less risk.

The bad loans also caused another problem. Banks sought high profits on their existing loans so that they could eventually write off the bad debt. This created a wide gap between interest rates banks paid on deposit accounts and the interest rates charged on loans. Through much of this period the gap has been approximately 2% a month or between 26% – 41% annually. This gap has been maintained in spite of the entry of new private banks and the recent lowering of interest rates.⁶⁴

An important theme set forth by McKinnon (1993) is that such a gap can create serious problems for economic development. When such a gap exists, the expansion of the financial sector and the gains from interme-

⁶⁴ In 1995 the base rate was lowered dramatically. Deposit rates which were 4% have been lowered to 2%. Loan rates which were 6% have been lowered to 4%. So instead of loan rates being 50% higher than deposit rates, loan rates are approximately double deposit rates. Dobrinsky (1994) argues that this gap was maintained because of credit ceilings which restricted the supply of available credit. But the gap between loan and deposit rates has not narrowed since the credit ceiling were abolished in the summer of 1994. Perhaps, some form of collusive behavior among the banks provides a better explanation.

diation are difficult to achieve. To encourage the growth of the bank deposit base, it is important to try and keep the real interest rate on deposits positive. Then depositors will not lose real purchasing power from the inflation. When the gap between deposit rates and loan rates is very high, this is difficult to do because positive real deposit rates will create very high real loan rates.

For example, if annual inflation is 40% and deposits pay annual rates of 42%, a 26% gap would mean loan rates of 68%. Very few businesses can afford to borrow if real interest rates are 28%.

During much of the period since 1990, real loan rates have not been as positive as this example suggests because real deposit rates have been very negative. This has discouraged saving since people have so few savings options⁶⁵. As long as a large interest gap remains, it will be very difficult for normal financial intermediation to develop.

Law on Settlement of Nonperforming Credits

It had been recognized for some time that if normal banking relationships were to evolve something had to be done to help the banks with the bad loans inherited from the period of central planning. A major concern in designing a program was to create the expectation that this was a one time cleansing of bad debt. If bankers believe that the government will come to their rescue every time they get into trouble, there will an incentive for bankers to take excessive risks when they make future loans.

In December 1993 the Law on Settlement of Nonperforming Credits was passed. The size of the program is estimated to be about USD 3 billion. The program replaces all state-owned enterprise loans that had not been serviced before 30 June 1993 with government securities. These securities have become known as “ZUNK” bonds. (This name comes from the abbreviation of the program name in Bulgarian.) There are two types

⁶⁵ From 1991 through 1993 time deposits grew in real terms in spite of negative real interest rates. Deposits in hard currency were the only alternative to term lev deposits. But during this period the depreciation rate of the lev was even less favorable to savers than the interest rate on time deposits. The sharp depreciation of the lev in late 1993 and early 1994 made foreign currency deposits appear more attractive. Interest rates rose. With the large interest rate gap, the real rate of interest on loans rose to 20 – 26% in 1995. This created stress within the banking system as the number of nonperforming loans increased.

of ZUNK bonds. Both types have a 25-year maturity. One type is denominated in U.S. dollars. These bonds replace the foreign exchange denominated loans to state enterprises on the bank balance sheets. These bonds pay an interest rate equal to the 6-month LIBOR.⁶⁶ The interest is paid in lev not foreign currency. The value of these bonds is stated in foreign currency, however, so their valuation depends on changes in the exchange rate between dollars and lev. The second type of ZUNK bond is a lev denominated bond. These bonds start by paying 1/3 of the base rate of interest. This interest rate rises over seven years until these bonds pay the full base rate of interest.⁶⁷ From the bank's perspective, the exchange of state-owned enterprise lev-denominated loans for ZUNK bonds would look as follows:

Bank A	
Assets	Liabilities
SOE Loan	– BGL 100,000
ZUNK Bond	+ BGL 100,000

There are several important aspects of this program that have important implications for the development of the Bulgarian banking system and the conduct of monetary policy. First, ZUNK bonds pay lower interest rates than other government securities. As a result, their true market value is less than the face amount of the bonds. Secondly, a unique feature of the program is that these bonds can be used in a special way to purchase state-owned enterprises under the program to privatize these enterprises. Third, while the ZUNK program was large, it only covered the bad debt of state enterprises that was created before 1991. We discuss each of these issues below.

Low Interest on ZUNK Bonds

The exchange of enterprise loans for government securities affects the cash budget of the government since it creates an obligation to pay interest on the bonds. To reduce this, expense the government created ZUNK bonds that paid less interest than other government securities.

⁶⁶ *The LIBOR is the interest rate that international banks pay each other on loans in the London money market.*

⁶⁷ *For a more complete description and analysis of the ZUNK bond program, see Dobrinsky (1994).*

Although such a decision may have been appealing from a political vantage point, it reflected an unwillingness to face up to an economic reality. It is generally acknowledged that when state banks make loans to state enterprises, and there is no expectation that the loan will be repaid, this is equivalent to a direct government subsidy of the state enterprises. Such flows should be considered part of government expenditures. Since they are not covered by tax revenues, these flows add to the government debt. The exchange of bad enterprise loans for government securities is acknowledgment (in an accounting sense) of the economic facts. Not paying full market interest rates on these bonds is an attempt to finance part of the government debt at less than market interest rates. It was bound to cause problems.

The decision to pay less than full market interest on the ZUNK bonds placed many banks – especially Mineralbank and Economic Bank in a difficult position. These bonds are an asset of the banks. These assets are balanced by liabilities on the other side of the balance sheet. Normally banks make profits by paying lower interest on their liabilities than they receive on their assets. Because the ZUNK bonds pay such low interest, the reverse is true. The major liabilities of most banks is term deposits, money obtained through refinancing from the BNB and money borrowed through the interbank money market. The cost of money received through refinancing and the interbank money market exceeds the base rate. Term deposits pay interest rates approximately two-thirds the base rate. With this mix of liabilities the banks have to pay out much more than they receive from holding lev-denominated ZUNK bonds which pay only one-third the base rate or dollar-denominated bonds paying LIBOR.

To be profitable banks have to earn a high enough return on their other assets and their off-balance sheet operations to make up the difference. If the ZUNK bonds are a substantial part of a bank's asset portfolio, as was the case with Mineralbank and Economic Bank, this is not possible.

It may seem strange that a program designed to improve the financial condition of the banks would create so much stress. ZUNK bonds may pay less than market interest rates, but one would think that they were better than bad state-enterprise loans. What the ZUNK bonds did, however, was force the banks to use more honest accounting procedures. They could no longer loan money to state enterprises so that state enterprises could then repay the interest.

Mineralbank and Economic Bank held the majority of the ZUNK bonds. The situation at these banks became dire. In 1994 the BNB had to expand the refinancing to these banks so much that it became difficult for the BNB to maintain control over the monetary base. Eventually, the Ministry of Finance replaced the ZUNK bonds with government securities paying full market interest and the BNB stopped the refinancing of these banks.

ZUNK Bonds in Privatization

While the banks carry ZUNK bonds on their balance sheets at face value, the decision to pay low interest on the securities means their true value is much less. So while the intent of the program was to clean up the bank balance sheets, it only partially achieved that result. The banks' accounts still do not reflect their true situation.⁶⁸

On the other hand, a special provision of the ZUNK bond program does increase the value of the ZUNK bonds above the level that their low interest rates would normally dictate. ZUNK bonds can be used in the privatization program for state-owned enterprises. A potential purchaser of a state enterprise can go to a bank and purchase a ZUNK bond. The purchaser can then go to the privatization agency and make an offer to purchase the enterprise and make partial payment for the enterprise with ZUNK bonds. In this transaction the ZUNK bonds will be valued at full face value by the privatization agency even if the purchaser paid the bank substantially less for the bonds.⁶⁹ For example, a potential buyer of a state-owned enterprise may bid BGL 3 million for the enterprise. If the proposal is approved, BGL 1 million of the payment might be in ZUNK bonds purchased from a commercial bank. While the ZUNK bonds have

⁶⁸ To say nothing of the fact that banks continue to carry bad state-enterprise loans on their books that were made after 1990. These loans still have a low expectation of repayment. To the extent these loans are valued at their full face amount, banks' accounts are still distorted. So even if the ZUNK bonds paid full market interest, this would continue to be a problem.

⁶⁹ As part of the program to privatize state-owned enterprises there is a similar provision for the use of Brady bonds created under the foreign debt agreement with the London Club. The two types of bonds, ZUNK and Brady, appear to be sold in segmented markets. The Brady bonds are being used by potential foreign investors and the ZUNK bonds by Bulgarians interested in purchasing newly privatized firms.

a face amount of BGL 1 million, the bank might have sold the bonds to the purchaser of the state enterprise for BGL 700,000.

Even though this program raises the market value of ZUNK bonds, their true value is still far below the face amount. From an accounting point of view, this continues to create a confusing situation. If the true value of the ZUNK bonds were acknowledged, the balance sheet of the banks would appear to *worsen*. Instead of improving the position of the banks, the ZUNK program would cause the net worth to deteriorate. This can be seen more clearly by reviewing an example of what happens if a bank sells its ZUNK bond to a buyer participating in the privatization program.

We saw above that when banks received BGL 100,000 in ZUNK bonds, the bank's balance sheet showed a simple substitution of ZUNK bonds for state-enterprise debt. If the bank now sells these bonds for 70,000, it must reduce its net worth to reflect the difference in value between the sale price and the balance sheet valuation:

Bank A			
Assets		Liabilities	
ZUNK Bond	– BGL 100,000		
Cash	+ BGL 70,000		
		Net Worth	– BGL 30,000

One might ask why the bank would be willing to engage in such a sale. The reason the bank can find this transaction beneficial is that even though the bank is losing net worth, it can now reinvest the 70,000 in another asset which will earn more income than the low interest paying 100,000-lev-ZUNK bond.⁷⁰

The purpose of the ZUNK program was to recapitalize the banks by increasing their net worth. In examples like the one above the actual effect was to decapitalize the banks – at least in terms of their accounts. There are two reasons for this confusion. First, the original accounts did not reflect the true situation faced by the banks. Secondly, the ZUNK program encouraged more accurate accounting by the banks but provided

⁷⁰ The sale price of the ZUNK bond for privatization purposes will be higher than it otherwise would have been since the purchaser can use the bond as if it were valued at its face amount. The BNB has also put a minimum price on ZUNK bonds.

only a partial solution to the problem. With the ZUNK program banks are actually healthier (since the ZUNK bonds are more valuable than the bad enterprise loans), but their accounts can make it appear that their situation has deteriorated.

More Bad Loans?

ZUNK bonds are only a partial solution to the problem for three reasons. First, they pay low interest. Secondly, they only manage the bad debt problems that were created before 1991. Third, state enterprises received only marginal debt relief. Under the ZUNK program state-enterprises do not have to pay interest on their original loans for a short time, but the debt was simply transferred from the banks to the government. Now the enterprises are indebted to the government instead of the banks.

The basic problem lies with the state-owned enterprises. As long as they are in deep financial trouble and the banks, perhaps for political reasons, feel a responsibility to advance them credit, the problem will continue. Until the state enterprises are restructured, there will be demands to subsidize them to keep employment from falling. This will recreate the bad loan problems in the banks and continue to divert funds which should be used to support private sector initiatives.

If, under the ZUNK program, state enterprises had been given total debt relief for their pre-1991 loans, they would have been in a much stronger financial position.⁷¹ Hard budget constraints would have been easier to enforce, providing greater encouragement for restructuring. Since the situation of the enterprises has not changed significantly, the same forces which created the original problems are still present.

Conclusion

Many countries in Central and Eastern Europe which are moving toward capitalism have experienced severe problems due to bad state-owned enterprise loans. The Law on Settlement of Nonperforming Credits took a step toward solving a serious problem. Unfortunately, it did not

⁷¹ Sadly it was not recognized that such debt relief would have had no affect on the financial position of the government. If the enterprises had been released from their obligation to pay back these loans, this would have improved the net worth of the enterprise. Since enterprises are owned by the state, the improvement in the net worth of the enterprise would have increased the value of the state's ownership by an equivalent amount.

go far enough. Hesitancy on the part of the government to assume full responsibility for the bad loans of state enterprises resulted in a program which only partially cleaned up the balance sheets of commercial banks. The remaining problems are serious enough so that proper banking procedures will still be difficult to implement. Because repeated recapitalizations of this type create the wrong incentives for banks, an important opportunity was lost.

Conclusion

To appreciate the progress made in the development of Bulgaria's financial system, it is important to remember the starting point. Levs did not necessarily buy goods. Banking was monolithic. Secondary markets for financial instruments did not exist. It is from this starting position that Bulgaria's efforts must be measured.

Since the transition to a market economy began, pressing macroeconomic problems have dominated the attention of policy makers – controlling the growth of the money supply, curbing inflation, financing government debt, smoothing the fluctuations in the lev, establishing a convertible currency. But dealing with these issues required first a new legal structure within which solutions could be sought. Two fundamental legislative acts, the Law on the Bulgarian National Bank and the Law on Banks and Credit Activity, set the basic structural framework for a two-tiered system of Bulgarian banking. In addition to commercial bank regulation and currency issuance, the Managing Board of the Bulgarian National Bank was given responsibility for managing the supply of money and credit for the nation.

Mirroring the concern of policy makers, we have taken an approach which emphasizes the macroeconomic rather than the microeconomic aspects of the development of the Bulgarian financial system.

Because controlling the growth of the money supply is an important tool for controlling inflation, we began by discussing how the money supply should be defined. A money supply formula was derived, which revealed that the money supply is most directly affected by changes in the monetary base. The central issue for the implementation of monetary policy in Bulgaria is how well the BNB is able to manage the monetary base. We found that the BNB does exercise considerable control through its open market operations. Major difficulties in controlling the growth rate of the money supply persist. Large government deficits must be financed by printing money. Now that the Law on Settlement of Nonperforming Credits has been implemented the bad loan problems of the banks are now clearer and must be faced. Foreign currency crises in 1993 and 1994 have created increased pressure to design a policy that will prevent future crises. Nevertheless, the BNB's progress has been significant in designing basic tools to control the money supply and the aggregate level of credit.

Many of the remaining institutional weaknesses, however, are more microeconomic. At the beginning of this essay we cited Stiglitz's (1992) list of functions that a financial system in a market economy must perform. Now that we have described the Bulgarian banking system it is useful to return to this list in order to assess how much progress has been made in each of the functional areas Stiglitz describes. The difficulties at the microeconomic level become more evident as we review this list.

1. Management of the medium of exchange.

Considerable progress has been made in management of the medium of exchange. The lev has been established as a viable internal currency used as a means of payment. The BISERA transaction payment system now provides for more reliable transfers of funds among banks.

2. Transferring funds from savers to investors in new economic production.

3. Pooling small amounts of savings so that larger projects can be undertaken.

The financial system is beginning to expand beyond the core banking system, but almost all financial intermediation still involves the banking system.⁷² There are few investment options in Bulgaria for the individual saver so the banks have been effective in expanding their deposit base. Time deposit accounts have proved to be a particularly attractive asset and have grown rapidly during periods of relative exchange rate stability. In this way the banking system has functioned to pool small amounts of savings.

More problematic has been the employment of these funds in new economic production. Unfortunately, the government and the state enterprise sector continue to make such large demands on bank funds that little remains for the development of the private sector. Because almost no private financial intermediation has developed as competition, borrowers who need large sums to start production projects have little recourse other than the banks. Clearly methods must be found to encourage banks to more fully participate in the development of the private sector. One possibility is to provide more centralized direction through some form of industrial policy (Miller, 1995).

4. Choosing among projects so that the most productive projects receive the most support.

⁷² The other major intermediary is the State Insurance Institute.

5. Monitoring the use of funds so that they are used in the intended way.

These two functions are closely tied. The difficulties that currently hinder their effective performance are identical. Some economists have referred to the early period of transition as the “noisy period” (Tirole, 1991). During this period it is difficult to evaluate risks because there is so much uncertainty about the future course of the economy. Added to this is the lack of expertise and experience of economic agents in their new roles. Inexperienced or untrained loan officers make evaluation of projects difficult. This same lack of knowledge precludes banks from properly monitoring projects. The new entrepreneurs seeking loans are similarly inexperienced. Many lack the skill to write a basic document like a business plan. Even experienced Western financial loan officers have difficulty making loans and monitoring their success in this environment.

6. Enforcement of loan contracts so that the loans are repaid.

7. Definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken.

Bankruptcy laws define how creditors will be compensated when a debtor goes into default. A bankruptcy law was just passed in 1994; its full implementation will take some time as the various aspects of the law are clarified. Lending on the basis of creditworthiness is difficult since the information sources which exist in more developed financial systems do not exist. Even making loans on the basis of collateral can be difficult because records of liens (i.e. previous loans which used the property as collateral) on property cannot be entirely trusted.

8. Lowering of risk by creating methods for diversification of investment risks.

There has been little diversification of risk in private sector investment. The inability to obtain credit from the banks has forced most private enterprises to finance their activities out of their own savings. This has made it difficult to start even medium-sized private production activities. It also means that there has been almost no opportunity to diversify risks of private market activity.

Alternative means for pooling risks would be to develop nonbank financial intermediaries. These institutions are difficult to establish because savers must have confidence in the management before they will

be willing to trust others to invest their savings. These institutions are just beginning to develop.

The advantage of such institutions would be their independence of any history of state involvement. As private corporations, their survival would depend on their ability to make good investment decisions. Such institutions could fill an important gap by supporting the growth of the private sector.

One important unanswered question is how the present growth of the small-scale private sector is being financed. This is almost entirely in trade and distribution. In some instances families have pooled funds to start a small business, but this probably explains only a fraction of what is being observed. What is not much in evidence is the ability to pool relatively larger sums to begin productive activity.

For an economy to grow, effective mechanisms must be established which channel savings to investment activities. Thus far these mechanisms are working very poorly in Bulgaria. On the other hand, substantial progress has been made in defining a legal structure for banking, creating an internal medium of exchange, and designing monetary policy tools. Judged by the Stiglitz criteria, it is clear that there are many weaknesses in the functioning of the financial system in Bulgaria, especially at the microeconomic level. Judged from its starting place, it is clear that Bulgaria has made much progress.

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