

SETTING UP AND DEVELOPMENT OF INTERBANK
FINANCIAL MARKETS IN RUSSIA

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Social Studies

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Abstract

The thesis focuses upon the Siberian regional money market concentrated in the city of Novosibirsk (Russia) and seeks to find out the reasons for the existence of the market and the way it has evolved in 1992-1999, a period in which there were two major financial crises in Russia. The thesis examines the functional and institutional "gaps" in the market's structure in comparison to developed money markets, and the most likely directions for future development of the market.

The thesis uses a method of comparative institutional analysis drawing upon "case study" methods and the construction of an "ideal type" of a money market, based on four examples of developed money markets - those of the UK, the USA, Japan and Singapore. The "ideal type" identifies main common elements of four national money markets, which constitute a crucial set of structural characteristics for a money market to be well functioning. Participant observer position of the author was helpful for the research.

The thesis discusses main reasons for segmentation of the regional money market from the national one. Statistical test of liquidity is undertaken for main sectors of the regional money market in 1997. Special attention is paid to the financial crises of August 1995 and August 1998 - to their causes and consequences for the national and regional money markets. The thesis examines a link between the money market

crisis of August 1998 and a weakness of the Russian banking system in the context of common characteristics of transitional economies.

The thesis gives a story of post-crisis recovery of the Siberian money market, and outlines the most probable directions of its near future development along a line to the "ideal type". The most important of them is appearance of the markets in the Bank of Russia's and corporate bonds as alternatives to the currency market and as sectors where the "lender of last resort" facilities could be formed.

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List of Abbreviations

AFI	Agency of Financial Information
ARKO	The Agency on Re-structuring the Credit Organisations
BoR	Bank of Russia
CD	Certificate of deposit
CFBM	Common Funds of Banking Management
FCSM	Federal Commission for Securities Market
Fed	Federal Reserve System
FOREX	Foreign exchange market
GKO	Government short-term bills
IMF	International Monetary Fund
LIBOR	London Interbank Offer Rate
MAS	Monetary Authorities of Singapore
MIACR	Moscow Interbank Actual Rate
MIBID	Moscow Interbank Bid Rate
MIBOR	Moscow Interbank Offer Rate
MICEX	Moscow Interbank Currency Exchange
MMMF	Money Market Mutual Funds
OFZ	Federal loan bonds
OTC	Over-the-counter
REPO	Repurchase agreement
SELT	System of Electronic Trade
SICEX	Siberian Interbank Currency Exchange
SIF	Shared Investment Funds
SLOT	System of Lot Trade

The Author

The Author graduated from the Department of Economics of the Novosibirsk State University (Novosibirsk, Russia) in 1980 and has got the first scientific degree - a Candidate of Economic Sciences - in 1986 at the same University, following presentation of the thesis "Influence of the Federal Budget Deficit on Inflation Process in the United States". Then, for 6 years the author worked for the Novosibirsk State University first as an assistant, and then as a lecturer in Economics.

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Introduction

This thesis focuses upon the Siberian money market concentrated in the city of Novosibirsk and serving that huge area of Russia from the Ural Mountains to the Far East. It covers the time period from 1992 to the mid-1999, which includes two financial crises in Russia.

The money market development in Russia is a part of the reconstruction of the whole economy, which emerged at the end of 80-s and supposed the development of the basic principles of the market economy. These principles include setting up a financial market with a money market as part of it. In the market economy money matters and every move in the market involves money movement.

With the revival in one or another form of the institution of private ownership and the transfer of decision making about borrowing resources and the distribution of products and services to owners and managers, enterprises become dependent on both bank credits and resources from stock and money markets. While on the other hand, enterprises provide stock and money markets with instruments for circulation.

The words "in one or another form" are used to stress that the process of development of private ownership is uneven in different branches of the national economy and takes a long time. Newly created private enterprises are oriented to market methods of management and income distribution from the very beginning, while the post-soviet enterprises, even if formally private, move to the market-

type of management very slowly. Hence the development of financial markets in Russia is going in parallel with the real introduction of the institution of private ownership.

The new quality of dependence of enterprises on financial markets means that investment grants are being replaced by bank credits and by resources attracted from stock and bond markets. Bank credits are being provided on a contractual basis at an interest rate which is defined by the market. Such new dependence supposes (a) the existence of commercial banks, providing major banking services and competing with each other in the loan and deposit markets; (b) the existence of different instruments in the financial market, which allows enterprises flexibility in placing their debts and attracting resources from the market; (c) the existence of different financial institutions playing an intermediary role in different sectors of the financial market.

Developed interaction of enterprises with financial institutions supposes the existence of specialised institutions - commercial banks, financial and insurance companies, investment and pension funds. Via their mediation the capital of the whole economy is circulating and, therefore, their stability is a condition of the stability in the economy.

The same refers to the government as an economic agent. Its new role - as debtor and creditor in the Russian transitional economy, in using the commercial banks for servicing the monetary side of the everyday activities of the government, in introducing indirect methods of monetary

regulation - requires efficient financial market and institutions.

Financial intermediation as an independent and major business for financial institutions relies, on the one hand, on the factors outside the market, on the readiness of economic agents to accommodate temporary free and to borrow insufficient financial resources via these institutions, and, on the other hand, on internal factors inside the market, the readiness of financial institutions to take part in short trade inside the market in order to support the liquidity position of participating institutions. This "other hand" is a money market.

No one financial institution itself has an ability to balance its own position. Nor can a group of financial institutions balance the liquidity position of participating institutions in difficulties in the market without the help of the most trustful and stable institution, usually a central bank. Such help in the market economy comes via the money market. Money market stability is the backbone of the stability of financial institutions and therefore of the national economy.

This dependence displays itself very clearly at times of financial crises. In the Russian economy such dependence manifested itself in extreme form in August - December of 1998 (for more details see chapter 6). The crisis started as a debt crisis of the government. And, as government liabilities constituted a considerable share in the portfolios of banks and other financial institutions, a

crisis of liquidity became an immediate consequence of the debt crisis. Besides, the market for government liabilities ceased to operate for long period of time and this market was the main sphere for the short-term operations of commercial banks and other financial institutions. The most serious manifestations of the crisis of liquidity were a growing mutual disbelief in the solvency of each other among the participants in the money market and the breaking off of the operations at the direct interbank market.

The crisis immediately spread beyond the borders of the money market and influenced the whole economy. The most serious consequences of the crisis of liquidity for the rest of the economy were:

- refusal of commercial banks to pay back deposits of firms and individuals;
- refusal of commercial banks to make payments and clearing for their clients, which meant the blocking of the payment system in the country;
- refusal of commercial banks to credit firms and individuals;
- refusal of commercial banks and financial companies to meet their liabilities to foreign financial institutions.

The market segment of the Russian economy set up in the time of transition was paralysed by lack of a functioning payment and credit system. The reverse side of this process was a long period of distrust by the real sector of the Russian economy towards financial markets and institutions

and therefore a diminishing field for their business.

Another example was the crisis of liquidity of August 1995 which highlighted another side of the significance attached to financial markets in transitional economies. It demonstrated that the achievement of financial stabilization and anti-inflation measures, although are important elements of macroeconomic policies in transitional economies, are not enough. Without an adequate basic structure of financial markets, especially of a money market, and the establishment of a mechanism to safeguard against temporary difficulties of banks and financial companies, there could be a collapse of the national banking system (for details see part 4.4.2 of chapter 4).

The examples of the financial crises of 1995 and 1998 show that the money market in Russia (as in any transitional economy in general) constitutes an important part of the emerging market economy and financial sector reform and development are to be considered as one of the fundamental components of economic reform and transition. The establishment of a sound financial system is enormously helpful to the process of enterprise restructuring.

Financial sector reform entails the development of institutions and instruments for the more efficient allocation of financial resources and for the effective use of indirect macroeconomic policy - via refinancing, open market operations, interest rates, and reserve requirements. One of the most important parts of such reform is the reform of the money market, which supposes the development of

specialised institutions and definite instruments, including those suitable for indirect macroeconomic policy, and also of the mechanism to support the stability of well-functioning financial institutions.

That is why the conditions, general rules and consequences of development of the money market in a transitional economy seem an appropriate subject for academic research.

Another side of the importance of studying money markets is linked with the regional specificities of some national financial markets. In Russia, due to its huge territories and to some special features of the setting up and development of the money market (part 4.1 of chapter 4), great importance is attached to regional financial markets and centres. The reasons for the existence of regional financial centres in Russia, set out in part 4.1, are still in place at the edge of 2000 - 2001, and the regional financial markets continue to play a considerable role in the structure of the Russian financial system, as they did in the early 90-s. That is why the setting up and development of regional financial markets in Russia and the conditions of their further existence or integration into the national financial markets are considered as an important subject for investigation.

At the start of our research on the Russian money market and especially its Siberian segment, let us give a strict definition of a money market.

A money market consists of wholesale trade in short-term assets of relatively high liquidity between financial

institutions. These institutions deal impersonally in monetary assets, which means, according to Wilson's definition, that competition is relatively pure (Wilson, 1993). Central banks participate in money market operations differently in different countries, but generally they provide regulation and some form of facility as a lender of last resort. The literature reviewed, especially the works of Wilson (1993), Cobham (ed.) (1992), Ritchil (1986), Peasnell and Ward (1985), Artis (ed.) (1991), Bain (1992) refers to the following characteristics as the main features of a money market:

- trade in short money in large round sums;
- financial institutions as its major participants;
- relatively high liquidity and impersonality of transactions;
- banks dominating the market either as intermediaries or as guarantors;
- no specific location, with trade conducted primarily by telephone and telex (the market to a large extent is referred to as an "over-the-counter" market);
- trade executed directly or via intermediaries (brokers or dealers in money usually act as intermediaries in the selection of money market instruments); and
- trade tending to be concentrated in several centres which serve a region or an area. These centres necessarily offer a complex of financial services for financial institutions and other organisations operating in the financial market.

The Siberian regional money market consists of both nationally and locally oriented activities. Regional financial institutions use regional trading and/or settlement facilities to participate in nationally organised trade between financial institutions in all parts of Russia. In addition there is local trade in instruments, which are mostly of local importance. Local financial institutions constitute the major actors in these activities.

The first chapter of the thesis deals with the methods used to answer the following key research questions:

- *What are the characteristics of the Siberian regional money market, especially in relation to provision of liquidity and an appropriate regulation framework?*

- *What are the functional and institutional "gaps" in the structure of the Siberian regional money market?*

- *How far are such gaps a factor in the occurrence of financial crises?*

- *Has a well functioning money market emerged in Siberia in the aftermath of the crises?*

These are important questions. A well functioning money market in Siberia would mean that regional banks and other financial institutions can operate in an easily approachable, relatively cheap and more comfortable environment to support their own liquidity. An alternative to the "Siberian environment" is the Moscow money market network, which is less approachable for Siberian actors in the market (they need to accommodate a trader in Moscow, or to buy an expensive afar terminal, or to trade via telephone, which is

risky); more expensive (besides expensive access to a trading network, expenditures for money-transfer to Moscow are also relatively high); and less comfortable (the intermediary institutions of the Moscow network usually pay not much attention to an individual client due to the large scale of their operations). Besides, concentration of regional financial resources in one of the Siberian cities as an alternative to the outflow of regional resources to Moscow means a broader financial base for the development of the regional economy. Thus, concentration of financial resources in Siberia via the regional money market's infrastructure is a gain of the regional economy as well as of the regional financial institutions.

As an employee of the Siberian Interbank Currency Exchange, positioned in Novosibirsk, and being a part of the Siberian infrastructure of the money market, I am personally interested in seeking for answers to the stated questions. The economics of the Exchange and its prospects depend on these answers. And working for the Department of Information and Analysis of the Exchange enables direct access to accumulated databases on different sectors of national and regional financial markets and a higher probability of a positive answer to requests for an interview.

Chapter 2 presents four national examples of money markets from an institutional-and-functional-structure point of view - those of the UK, the USA, Japan and Singapore. Chapter 3 generalises from these examples to produce a kind of "ideal-type" of a developed money market, which is used in

the following chapters to determine the differences between the functional and institutional structures of the Siberian regional money market and the structure of the developed money markets and to evaluate the Siberian market. Chapter 4 is a historical picture of the Russian and Siberian money markets over the period of 1992 - August 1995. It also gives an indication of the functional and institutional structures of the regional money market. Chapter 5 gives the history of the Russian and Siberian money markets for September 1995 - 1997 and also deals with the liquidity evaluation of major sectors of the Siberian regional money market as at 1997. Chapter 6 discusses the crisis of August 1998 at national and regional levels. It also gives a comparison of the market participants' expectations of how the market would develop, stated in early 1998, with the real situation. Besides, it presents the views of participants of required changes in the strategy and tactics of market regulation. Chapter 7 looks forward to a post-crisis recovery of the Russian and Siberian money markets and discusses future prospects for the Siberian money market. The conclusion summarises all major points and findings throughout the thesis.

Chapter 1

The Method of Investigation

1.1 Comparative Institutional Analysis

This study uses a method of comparative institutional analysis drawing upon "case study" methods and the construction of an "ideal-type" based on secondary sources as well as on quantitative data analysis. There are several interrelated reasons for this:

1. It is an investigation of an economic system in transition focussing on the qualitative, rather than quantitative, transformation from one system state to another;
2. Because of the uniqueness of institutions and of the types of economic interactions which appear in a time of transition, the traditional large scale survey approach requiring a sufficient number of observations is less appropriate;
3. The case study approach is no less "scientific" than the econometric approach. M. Blaug expresses this in the following words: "Much as we enjoy abstract, mathematically formulated economics, we cannot help wondering just how the economy actually works, and most of the lemmas of rigorous pure theory do not really satisfy the desire to understand how things hang together in the economic world" (Blaug, 1992: p. xxii). Referring to the case study approach in social sciences, D. T. Campbell states: "...in addition to the quantitative and quasi-experimental case study approach ... our social science methodological armamentarium also needs a humanistic

validity-seeking study methodology that, while making no use of quantification or tests of significance, would still work on the same questions and share the same goals of knowledge" (in Yin, 1989). Appropriateness of the case study approach for social sciences is also discussed in Armer and Grimshaw (ed., 1973).

The case study approach

- "...is preferred in examining contemporary events..."
(Yin, 1989: p.19);

- has the ability "to deal with a full range of evidence
- documents, artefacts, interviews, and observations..."
(Yin, 1989: p.20);

- allows a combination of different research strategies
"inside" a single case study.

The subject of this study is well suited to the comparative case study approach since its subject is the Siberian regional money market, which has emerged as part of the transformation of the Russian economy. The regional money market is based on:

(a) institutions which existed before the "transition", such as the regional branch of the Bank of Russia and a number of ex-Soviet banks, and are adopting new market methods in their operations; and

(b) new institutions, such as a large number of newly established commercial banks and financial companies, exchanges of financial instruments, and different types of intermediary institutions.

It follows from the above observations that the subject

of this study is unique. It has existed for only a short period of time; it belongs to a small group of major Russian regional financial systems, which include, in addition to the Siberian system, the Central (Moscow), Northern (St. Petersburg), Southern (Rostov), Ural (Yekaterinburg) and Far-Eastern (Vladivostok) systems. The existence of several different time zones in Russia is one important reason for the existence of a set of regional markets.

Different sources of information about national and regional money markets in Russia are used in the case study: Russian and foreign books and periodicals, statistical data of information agencies (Interfax, Prime¹) and of major Russian stock and currency exchanges, databases of the Centre of Analysis of the Siberian Interbank Currency Exchange (SICEX), and the views of the regional money market participants collected via interviews conducted by the author.

Due to the instability of the Russian economy and political system, the national money market is also very

¹ **Interfax** is a Moscow information agency, specialising in broad political and economic information and statistics. It works in close co-operation with the biggest Moscow banks and financial companies, monitoring their activity on a daily basis and accumulating data on their everyday operations. It is the only Russian information agency that accumulates data of volumes of daily operations at the Moscow direct interbank market (direct trade "bank to bank"). **Prime** is a Moscow information agency, specialising in the banks' statistics. It works in close co-operation with the biggest Moscow banks and the Bank of Russia. Together with the Bank of Russia it estimates and publishes the MIBOR, MIBID and MIACR rates for the Moscow direct interbank market (for details see Chapter 4).

changeable. Many important innovations were introduced during the last three years (see chapters 4, 5, 6 for details). This is why one of the main sources of information is specialised periodicals in Russian, which monitor market innovations and changes in regulation. They are

- national journals: Commersant (weekly), Expert (weekly), and Rynok tsennyh bumag (Securities Market - biweekly); the Expert is an Economist-like journal, focusing on the macroeconomic side of development, political influences on economic processes and important international, national and regional economic events.
- a regional monthly journal Financi v Sibiri (Finance in Siberia); this has not been published since the crisis of August 1998.
- central newspapers: Finansovaya gazeta (Financial Newspaper), Commersant-Daily, and Delovoy Express (Business Express); Commersant-Daily is a Financial Times-like newspaper, containing informative and analytical articles on economics and politics.
- local newspapers: Rossiyskaya Asia (Russian Asia), Novaya Sibir (New Siberia), and Epigraph; the first did not survive after the crisis of August 1998.

In discussions of financial crises and of the necessary steps in the transformation of financial system the publications of the World Bank and International Monetary Fund are used. Statistics and analytical issues of the Bank of Russia, the Ministry of Finance, the Government Department of Statistics and the Federal Commission on Security Market,

in paper and electronic (via Internet) forms, are also used.

Statistical data for tables, graphs, charts and evaluations are mostly taken from databases of the Centre of Analysis of SICEX. These databases contain the Exchange's own information, produced by the Exchange's own trading systems as well as by the gateways to the national trading systems. Such data (volume of daily operations, margin daily quotes, average prices, number of participants in every trading session, etc.) are complete and undistorted. The same is true of the data incoming from other organised trading systems. Distortion appears when data of non-organised direct interbank markets are taken into account. Such data are accumulated by information agencies from a selection of participants in the market, and, therefore, are incomplete. Such data can be used in the investigation of the rough proportions of different sectors of the money market.

1.2 Use of Ideal Types Derived from Secondary Sources

This thesis sets out to evaluate the emerging structure of the money market in Siberia in comparison with an "ideal type", which in this study is based on the experience of several developed money markets and is validated by discussion of the theory of financial markets.

It may be questioned if it is appropriate to make such cross-cultural comparisons (Armer and Grimshow, ed., 1973, p.50) - but it can be argued that a developed money market will have both cultural specificity and inter-cultural regularities. This point is supported by the third chapter of

the thesis, which demonstrates that even with differences in socio-economic systems, in the economic role of a state, in traditions of formality and trust (important for the 'technology' used with deals and transactions), the basic functional and institutional structure is universal for the four developed money markets, described there.

We agree with Schumacher (1993: p. 38), that economic laws are not free of "metaphysics" or "values", and have a national interpretation. We also agree with the arguments of Johnson and Lundvall (1993) and Campbell (1993), when they discuss the possibility of institutional borrowing for the economies in transition. Johnson and Lundvall argue, that "existing institutions tend to condition borrowed ones. Due to the largely informal, culturally transmitted, part of a nation's institutional set-up, it normally tends to change rather slowly and incrementally, and new or foreign elements are often easily, and informally, rejected. Information about new ways to communicate and interact can often be interpreted in different ways and is intensely culturally filtered" (Johnson and Lundvall, 1993: p. 72-73). We do not postulate institutional borrowing in this study. Our argument is that major elements with a specific set of functions exist for any developed national money market and are the same independently of their names in national money markets and of the history of their development. These elements allow a money market to function effectively (see discussion in Chapter 3).

A multiple case study strategy is used in this study, in

which one case is used to develop a typology of a well functioning market, and the others are used to confirm or modify this typology (Yin, 1989, p.44). In this study the highly developed money market of Great Britain is used as the basis for the typology. This is then modified on the basis of three other national cases to produce a synthesis of an "ideal type" developed money market.

1.3 Participant Observation and Interviews with Key Informants

The case study of the Siberian money market makes use of the "participant observation" approach. This is particularly helpful for the study of economies in transition, when changes are frequent and significant and the system for collecting and distributing updated information has not developed (opportunities given by participant observation are under discussion in RRA Notes, International Institute for Environment and Development (1993-1994)). The fruits of participant observation are cross-checked using several different methods and sources of information. To quote from Yin again, "...the most appropriate strategy is generally one employing a combination of methods and data types that counter-balance each other's limitations" (Yin, 1989: p.67).

The author has worked for SICEX (Novosibirsk) from the moment it was set up in 1992, first as an advisor to the President and then as a Director of the Centre of Analysis. For the last two years the author has headed the Department of Information and Analysis and is a member of the Board of

Directors. Such a position inside the Exchange, which serves financial institution - actors in the money market, allows access to knowledge of how they interact in the market and of their general financial "health". It also allows us to see how the regulatory organisations act in the market, because, from the one side, the Exchange's activity is being regulated and controlled by the Bank of Russia and the Federal Commission on Security Market, and from the other side, the Exchange is a kind of buffer in the implementation of some regulations to commercial banks and financial companies as clients of the Exchange. Working for the Department of Information and Analysis makes for a natural relationship when conducting researches (in the case of this thesis - individual research) devoted to the participants, structure of operations and future of the market.

Another "privilege" of working for the Exchange is a direct access to broad databases, containing open information for all sectors of the market, accumulated by the Department in the course of the Exchange's operations, as well as received from the Bank of Russia, stock exchanges, information agencies and other sources. The experience in calculating the exchange activity's indices and consultations with other exchanges and information agencies makes it possible to evaluate the level of distortion of in-coming information.

One more "privilege" of being a participant in the observed market is easier approach to potential key informants. In the course of the research two circles of

interviews were undertaken. The first was realised immediately after the crisis of the interbank loans market in August 1995, the second, at the very start of 1998. The first set of interviews was devoted to the reasons for and aftermath of the crises, the second - to the prospects for the Russian and Siberian money markets. No one approached for an interview declined to participate. The interviews were semi-structured (lists of the main questions for the two rounds of interviews are cited in Appendix 1) and noted (taping interviews is treated as unfriendly in Russia, as something which might turn against you).

In the first circle, ten key informants from five regional banks and regional branches of Moscow banks were interviewed. In each bank the author talked to one person from the interbank loan department and to another person from the currency operations department. Banks were chosen to represent:

- independent regional banks and branches of the Moscow banks whose state was not considerably worsened by the crisis (Commercial Bank "Surgutneftegasbank", Surgut; Commercial Regional Joint-Stock Bank "Novosibirskvneshtorgbank", Novosibirsk);
- independent regional banks and branches of the Moscow banks whose state was considerably worsened by the crisis (Novosibirsk Trade Bank, Novosibirsk; Novosibirsk branch of Incombank, Novosibirsk);
- independent regional banks that went into bankruptcy (Commercial Bank "Center Derzhavy", Novosibirsk).

The information derived from this round of interviews is presented so as to preserve the anonymity of respondents.

In the second circle of interviews employees of commercial banks, financial companies and the Centre of Analysis of SICEX participated. Key informants represented:

- top management of banks and companies (vice-president, Commercial Regional Joint-Stock Bank "Novosibirskvneshtorgbank", Novosibirsk; director, Financial Company "Development. Investment. Finance", Novosibirsk);
- middle management, influencing decisions at the department level, who acted in the main sectors of the regional money market during the observed period (1998-1999) (specialists in the stock operations department, Sibecobank and Siberian Bank, both Novosibirsk; specialist in government securities operations department, Kuzbassocbank, Kemerovo);
- trading level (trader, Financial Company "Interspread-Invest", Novosibirsk);
- level of analyst of current and future activities in banks and companies (analysts, Baikal Stock House, Irkutsk, Financial Company "Interspread-Invest", Novosibirsk, the Centre of Analysis of the Exchange).

Representatives of financial institutions from Kemerovo and Irkutsk were interviewed at the time of the Regional Conference on Stock Market Development, which took place in Novosibirsk at the end of January 1998.

Thus, the lists of participants of the two circles of

interviews are not completely matched. One reason for this is the instability of the group of participants at the regional money market, linked with general instability of the market and often crises.

1.4 Estimating Liquidity in the Market - Qualitative Analysis

Market liquidity is a highly important characteristic. It is particularly important for the money market, which is the market (a) for big lots and large sums and (b) for short investments. Two assertions are equally important for this market: "the money market does exist" and "the money market is liquid". If the liquidity of the money market (major sectors or a major sector) is not reaching a minimum level (see discussion later in this chapter and in the chapter 5), it means at least one of the following:

- a national financial system is underdeveloped with regard to its banking system, and commercial banks (if they exist) are banks only in name, because the performance of major bank operations necessarily means lending and borrowing from the money market;
- a national financial system is underdeveloped with regard to available financial instruments because required financial instruments, of sufficient quantity, with low risk of non-payment on maturity, and with short periods of circulation, are not constantly entering the market and are in short supply (for more details see chapter 2 and 3);
- a crisis of the financial system or the money market

takes place.

Liquidity is the possibility to buy or sell a certain financial instrument at an expected time, at an expected volume, and at an expected price - i.e., within the limits of the normal tendencies set by the market (see, for example, Bain, 1992: p. 7).

For estimating the liquidity of a financial market (or a market sector) the following indicators are normally used (Ivanter and Karpovich, 1996; Bain, 1992: p. 62, 64, 184; Peasnel and Ward, 1985):

- number of market makers in this sector of the market;
- price spread;
- volume of daily operations in the sector (as a share of an average or total volume of the market).

Margin values of the named indicators used for defining the boundary between liquid and non-liquid sectors are based on expert estimations. They depend on tendencies and norms formed in each sector of the market. Such tendencies and norms define the market participants' expectations concerning the dynamics of volumes and prices.

The level of liquidity of each sector of a money market depends upon the reliability of issuers and the profitability of the instruments in circulation. However, reliability and profitability are not the indicators of the liquidity level; they only influence it.

With regard to market makers, it is important to note not only the importance of the average number of market makers but also their readiness to maintain acceptable conditions of

client services. These conditions are assured by a large number of market makers and the resulting competition between them for clients' orders (such as, for example, a number of reliable banks in a specific region), and/or by regulation of the cost of market makers' services.

Participation of a central bank in market operations plays a very important role for the stability of the market. The Central Bank as a market maker controls the price spread and the daily volume of operations.

In chapter 5 of the thesis the level of liquidity for three sectors of the Siberian money market (the currency market and the markets for federal and regional bonds) is estimated, employing all the above named factors.

1.5 Overview of the Methods Used

In this thesis a combination of two complementary types of approaches is used to answer the primary research questions: a multiple case study with appropriate methods of analysis to find the common elements and "gaps" in the structures of different national money markets, and statistical tests of liquidity to test for the existence of different sectors in the Siberian money market.

The structure of the chosen multiple case study and the methodological structure of the whole thesis are presented in Fig.1 and Fig.2.

Terminology used for the case study design is based on Armer and Grimshaw (ed., 1973), Sudman and Bradburn (1983), Yin (1989). "Embedded single-case design" means that at this

level a single unit (regional money market), which consists of the elements of different origins ("new" and "old" commercial banks, financial companies, exchanges of financial instruments), is under investigation. As always in the case of more than one element, a multiple cross-case analysis is undertaken, when one case is used to develop a typology of the investigated process or characteristic, and the others to confirm or modify this typology. "Embedded multiple-case design" means that a group of units of different origins is under investigation and "holistic multiple-case design" means that a group of units of the same origin is studied.

If we correspond this methodological structure to the structure of the thesis, we will get the following picture. Chapter 2 is based on a review of the secondary literature on the structures of four developed money markets. In Chapter 3 an "ideal type" of the money market is formulated based on the material of Chapter 2 and on the theory of financial markets. Chapter 4 is a case study of the Siberian money market, 1992 - August 1995. Chapter 5 contains a case study of the Siberian money market from September 1995 to 1997 and a test of liquidity of the Siberian money market in 1997. In both chapters an intermediate comparison with the "ideal type" is done using the pattern-matching technique. Chapter 6 discusses the market participants' expectations of the future development of the regional money market and its actual development through the crisis of August 1998. Comparison with the "ideal type" is done again. Chapter 7 deals with the prospects for the Siberian money market, using the "gap-

approach" to the possible directions of development of the market's structure.

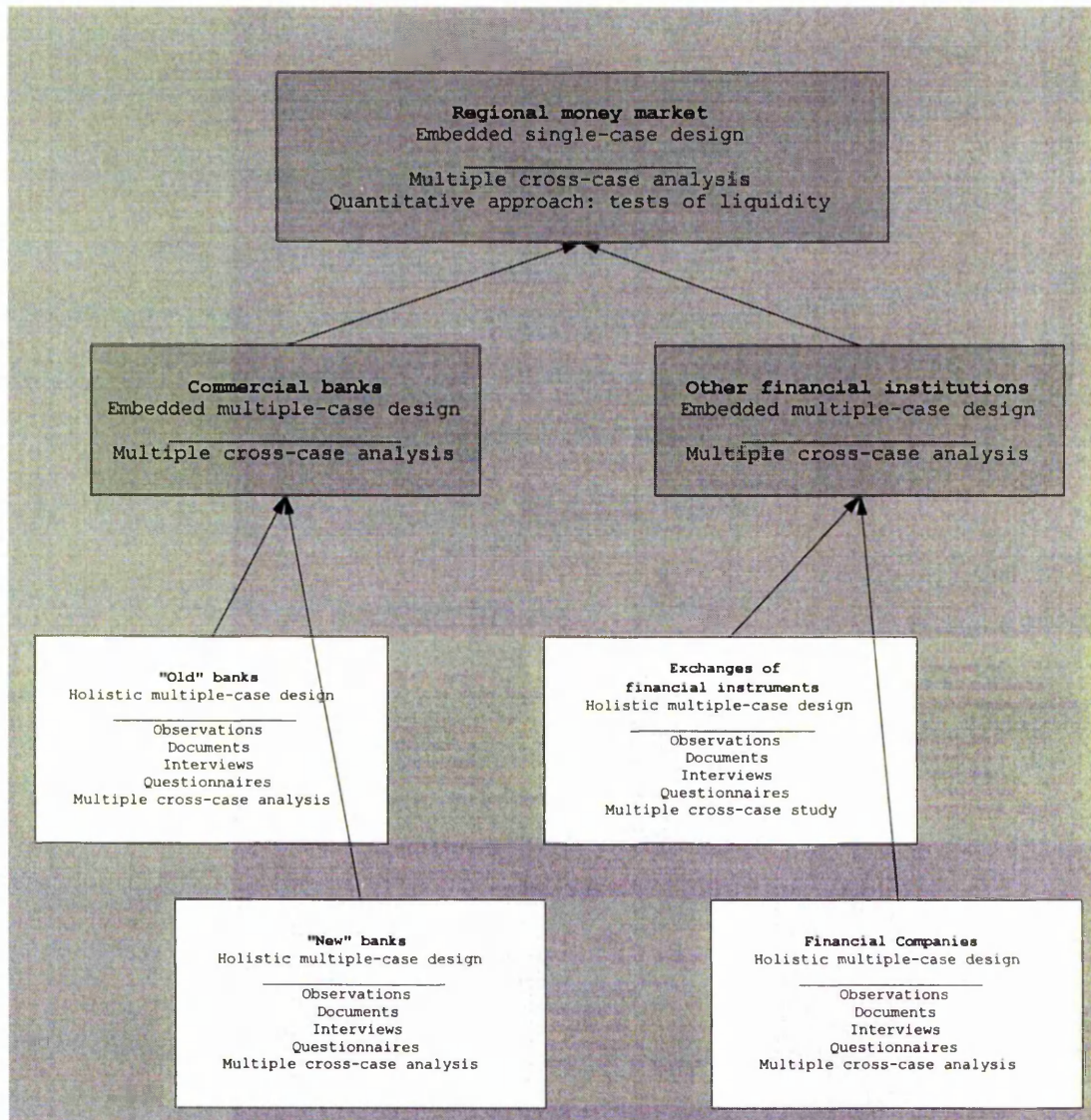


Fig.1 Structure of the case-study of the Siberian money market

In the period of this research (1992 - July 1999) two systemic financial crises, which seriously influenced the Russian and Siberian money markets' structure and development, have occurred in Russia. They have disturbed the course of investigation defined by the research design and have forced a return to the stage of a case study of the

Siberian money market. As this study shows, in spite of these disturbances the main tendencies in the development of the Russian and Siberian money markets remain unchanged, with these tendencies in accordance with the characteristics of the "ideal type", described in Chapter 3 (see Chapter 7 for details).

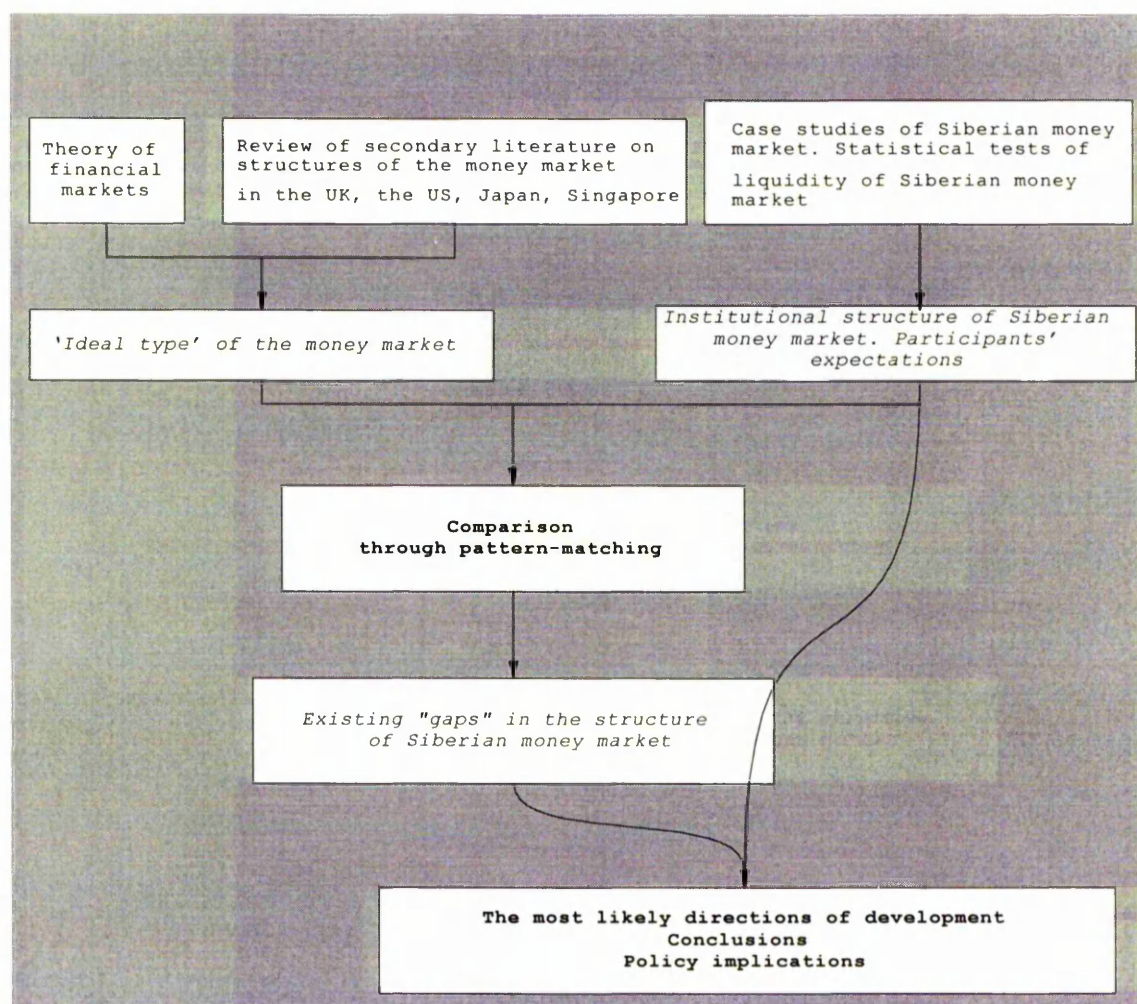


Fig. 2 Methodological structure of the study as a whole

This study experience demonstrates the problems that can arise when the object of study is under intensive development in a highly uncertain environment. Nevertheless, such investigations are extremely interesting, because they allow the possibility of studying the market in formation, and,

hence, of observing the establishment of the foundations which will define the development of the market for years ahead.

1.6 Conclusion

This chapter has explained the methods to be used in this investigation. Both case study analysis and statistical analysis will be used in this study.

Chapter 2

Developed money markets: four examples

2.1 Introduction

The goal of this chapter is to describe the functional and institutional structures of developed money markets. In the next chapter this material will be used for constructing an "ideal type" of the money market.

This chapter is based on a review of the literature of two major types. The first is literature about the theory of financial markets and institutions. The second is literature about specific money markets, though their common characteristics are usually discussed and comparisons between different cases are made. Literature on Singaporean money market is not so widespread as on the UK, the USA and Japanese money markets. For Singapore articles from financial journals were also used as well as the informational resources of the Internet, especially those of the International Monetary Fund. In the sources reviewed we did not come across a comparison of national examples of money markets which aimed to generalise their common elements to an "ideal type", and therefore concentrated on the system-forming necessary elements of the investigated examples, although "market-to-market" comparisons were very popular.

We consider the London money market first, because in spite of the uniqueness of some financial institutions in Britain, the institutional and functional structures of the London money market are the most developed, and provide a good basis for comparison and generalisation. Then follow the

examples of two different experiences in money market development - those of the USA and Japan. Finally, the Singaporean money market is considered as a relatively new, but already well-developed market.

The secondary literature is summarised in diagrammatic interpretations of the functional and institutional structures of the national money markets and of their main sectors, treating such diagrammatic interpretations as a helpful instrument for comparison and generalisation.

In our view, a diagram is a good instrument for comparison of elements of national money markets and of types of interaction between them. The idea of using diagrams occurred to the author when it became evident from reading the literature that a clear picture of the market was being lost behind the verbal description. The books were aimed at presenting a history of the market, the appearance of new participants and new instruments, and changes in regulation. For the author it was important to focus on the structure of the market in the four cases - the market participants, the flows of money, securities and information between the participants, the instruments in circulation - as it was formed in late 80-s - 90-s. Diagrammatic interpretation suits this well. A diagram is poorer than a real market, and can not reflect all details, but the main participants and major types of interactions between them can be presented quite well. Charts as a useful instrument for economic study are considered, for example, in Horn (1993: p. 136-137).

All the diagrams were drawn by the author. A

"generalisation through pattern-matching" approach was used here as well. Basic diagrams for all national money markets were constructed on a base of Wilson's work (1993), in which many national money markets are shown in a process of their formation and development. Then these basic diagrams were tested and added to by other books and articles on money markets. Actually, in all four cases the basic diagrams were only modified in detail and the basic structural elements of the markets stayed unchanged. In no case was there a contradiction between different authors about the main elements and the interactions between them in the four national money markets.

2.2 The London Money Market

The London money market is a part of a broader set of short-term financial markets (summarised in Fig. 3, based on Wilson, 1993; Artis and Lewis, 1991; Peasnell and Ward, 1985; Einzig, 1966; Temperton, 1991; Bain, 1992).

These include a foreign exchange market (FOREX) and a market for short-term UK government bonds and "eurobonds". A foreign exchange market is a necessary complement to the short-term markets. It is defined as "an interbank market in foreign exchange in which business is conducted on a wholesale basis by banks in different financial centres throughout the world, usually through brokers" (Peasnell and Ward, 1985: p.14). Short-term bonds, both those with an overall maturity of less than a year, and those with less than a year left to maturity, serve as active instruments of the "near money

market trade" for financial institutions. FOREX operations, as well as trade in short-term bonds, are the alternatives to money market operations. They are carried out by the same institutions. Discount houses, building societies, and banks are actively involved in the trade, while stock exchange money brokers, gilt-edged market makers, inter-dealer brokers, non-clearing banks and discount houses are the main intermediaries in these markets. In addition, FOREX operations often constitute a necessary part of money market transactions.

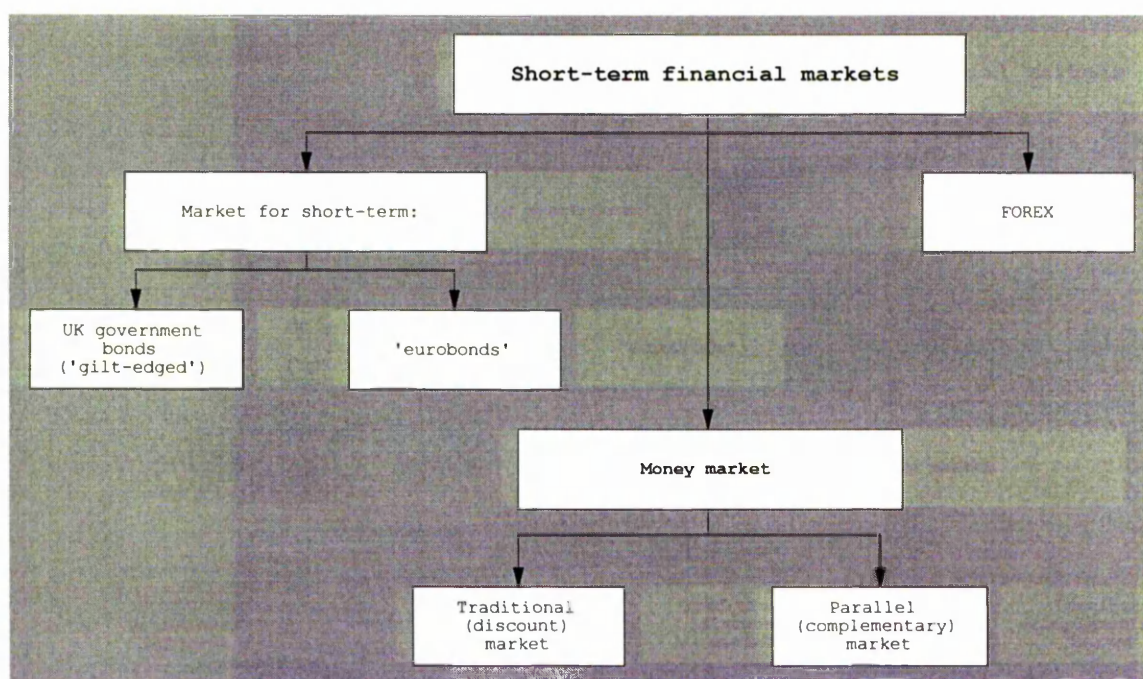


Fig. 3 Structure of London short-term financial markets

In this thesis we follow Peasnell and Ward (1985) who differentiate between discount and parallel money markets; the discount market is a market for government and bank bills and the parallel market is a market for interbank deposits, CDs, and local authority deposits.

The most important differences between the two markets are those defined by the traditions of trade:

(i) in the discount market, loans have to be fully secured, while in parallel markets they do not;

(ii) in the discount market the Bank of England participates as a lender of last resort, while in parallel markets there is no such lender;

(iii) the discount market is the main sphere for authorities to regulate money flow;

(iv) the discount market still relies to a great extent on personal contacts to obtain information.

More detailed functional and institutional structures of the discount market are shown in Fig. 4.

Treating this chart as an example, we now consider the terms that are used throughout the thesis. The institutional structure of a market is constituted by institutions-participants and in all diagrams it is presented in rectangles. The diagrams are also intended to show different levels of a market, at which different institutions operate. For example, in Fig.4 there are three institutional levels of the discount market: the Bank of England, discount houses as special intermediary institutions, and ordinary participants in the market - financial and non-financial institutions. For ordinary participants in the market to be "inside the market" means to specialise in financial mediation in financial markets. Usually institutions from "outside the market" conduct their operations via the institutions from "inside the market".

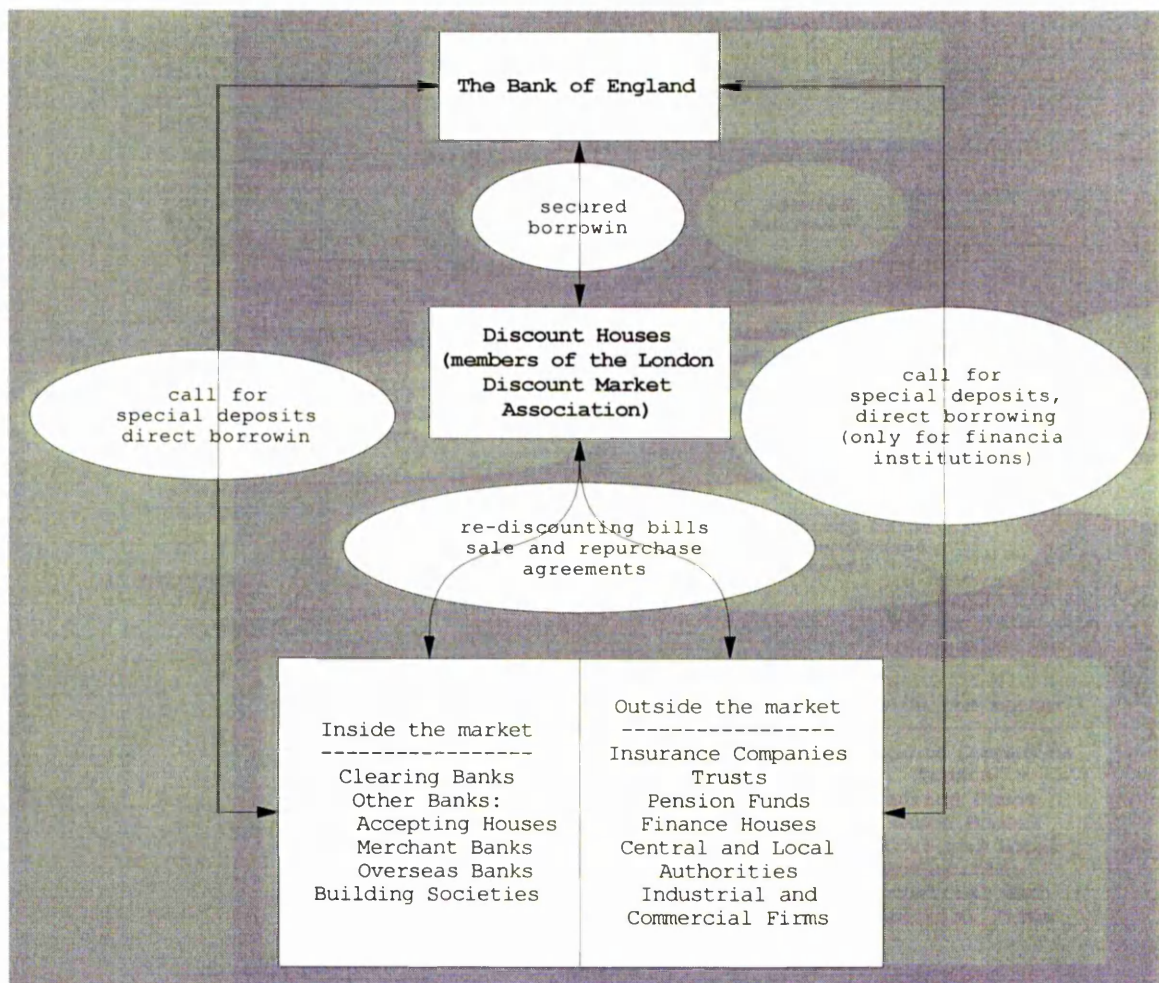


Fig. 4 The London discount market: functional and institutional structure

The functional structure of a market is constituted by transactions between institutions-participants. Such transactions are shown in the diagrams in ovals. Arrows show the directions in which money and securities move.

The discount market is at the centre of short-term financial markets in the UK. Discount houses are very close to the position of a "lender of last resort" for other financial institutions. As for the discount houses themselves, the Bank of England occupies such a position. Money in the market is loaned on a secured basis only, for

overnight or at call.

Discount Houses. In the words of J. Wilson, "the discount houses constituted the core of money market arrangements in London and ... they remain at the centre of market operations and retain their special relationship with the Bank of England... To an important extent, they remain a buffer between the central bank and the commercial banks operating in and from London" (Wilson, 1993: p.7). It is often stressed that the discount houses are unique British institutions, through which the highest degree of security and liquidity is guaranteed. Their principal function is "to absorb and release liquid funds of banks and to provide a market for commercial bills... for Treasury bills and short bonds" (Einzig, 1966: p.9). Despite growing competition with the interbank parallel money markets, lending from the market participants to the discount houses remains an important way of accommodating a surplus of short money for the following reasons:

(a) it is a traditional intermediate mechanism for accommodation of net surpluses or net deficiencies in the banking system with the "assistance" of the Bank of England;

(b) it ensures the smooth functioning of the market in Treasury bills through the existing system of tenders;

(c) until the mid-80s, clearing banks could not include in their liquidity ratio money loaned to parallel markets;¹

¹ In 1986 fully secured call money was abolished as a monetary requirement (Wilson, 1993: p.80). Despite this fact, clearing banks continue to hold secured funds with the discount houses for convenience and gain.

(d) thanks to the participation of the Bank of England, this market is not as volatile as parallel markets;

(e) banks and other financial institutions treat lending to the discount houses as creating obligations for the discount houses to buy their bills in turn; and

(f) the discount market is an important part of the business culture of the London money market. One reason for this is risk management. Participation in discount market operations creates the possibility of avoiding risk in times of instability of financial markets. Another reason is the tradition of the institutions operating in London of dealing with the discount houses in a very liquid and short-term market. The "technology" of deals in the discount market is adjusted to the needs of the discount houses. The third reason is a possibility for the market participants to get information from the discount houses.

The "bill part" of the market is of great importance. It secures to a large extent the stability of the financial system as a whole and serves as a sphere of the Bank of England's money market operations. Discount houses are the main market makers in Treasury and eligible bank bills. In the bill market they act in a "dual capacity": "on their own account, as well as on account of their clients inside and outside the market" (Einzig, 1966: p.9). For industrial and commercial firms, they play the role of intermediaries between these firms and the banks. Discount houses undertake by agreement collective underwriting of the whole offer (if necessary) of Treasury bills each week at a fixed price,

simplifying the procedure, and receiving in return the facilities of a lender of last resort.

Discount houses also provide the market in certificates of deposit (CDs) and in short-dated bonds or in bonds approaching maturity. They have become more active in the parallel market, using it as a source of additional liquidity and income.

A comparison of the two sectors of the London money market as the alternative ways of dealing in short-term money illustrates several possibilities for financial institutions (see Fig. 5). If one of them has a surplus of funds, it can buy bills from a discount house or lend to the parallel market. The last can be cheaper, but the risk of non-return of a loan is higher. The discount market will survive in its present position until the Bank of England prefers to act as a lender of last resort in the bill market and in the market for short loans through the discount houses. The Bank's participation makes this market less risky.

The Bank of England in the discount market. A clear distinction does exist between the bond market operations of the Bank of England (for meeting the government's borrowing requirements) and its money market operations (for the purposes of monetary policy). The money market operations are undertaken as open market operations in the bill market via existing intermediaries - the members of the London Discount Market Association, with the discount window facilities as an alternative to lending in the parallel market. The trade between the Bank of England and the discount houses is

actually a sphere for realisation of short-term monetary policy and for determination of the short-term interest rates.

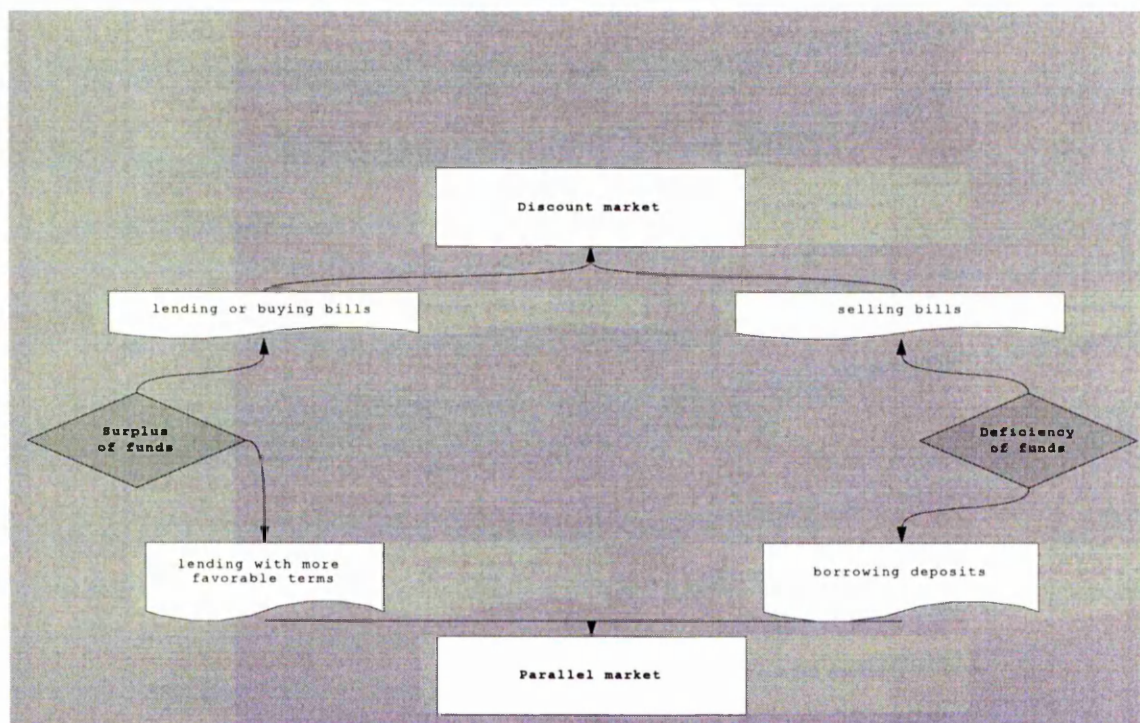


Fig. 5 Discount and parallel markets as alternatives for the institutions-participants

The parallel or complementary market consists of the interbank deposit market, CDs market, and the market for deposits with local authorities. The first two, denominated in both sterling and other currencies, constitute the core of the parallel market.

The functional and institutional structures of the interbank deposit market and CDs market, which are referred to as the interbank market, are presented in Fig. 6 and Fig. 7.

The sterling interbank deposit market emerged in the late 1950s after the traditional market and after the appearance

of interbank dealing in Euro-currency deposits. The existence of the market initially depended to a great degree upon the exchange restrictions of the late 1950s. Initially interbank lending in sterling was allowed only through the discount houses and direct interbank loans were possible only in foreign currency and were a part of the everyday operations of the foreign exchange departments of the banks.

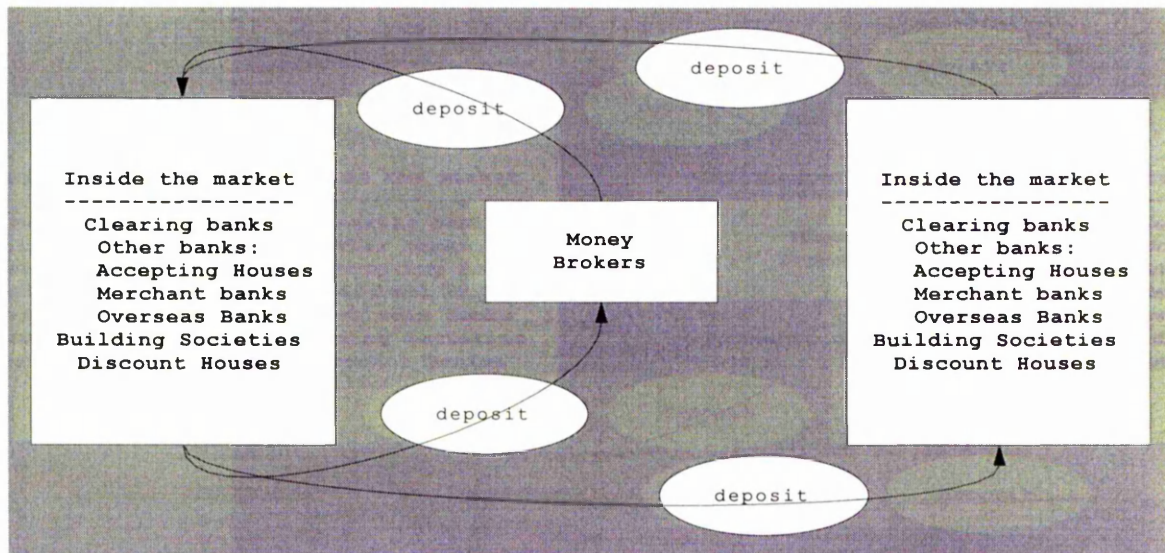


Fig. 6 The London interbank deposit market: functional and institutional structure

The bulk of money in the interbank deposit market is lent overnight or over weekend. Main terms for "period" money are 1 month and 3 months, "but banks may also borrow for 7 days, 15 days, or for almost any time up to 12 months" (Wilson, 1993: p.13). Money is lent with or without a fixed date of maturity (at call or with a note in advance). This market is more flexible than the discount market and loans are mostly unsecured.

The main issuers of traded CDs are the UK clearing banks

and building societies. Investors are mainly the same institutions but also include other financial institutions, local authorities, and non-financial corporations. The bulk of CDs is held within the banking system.

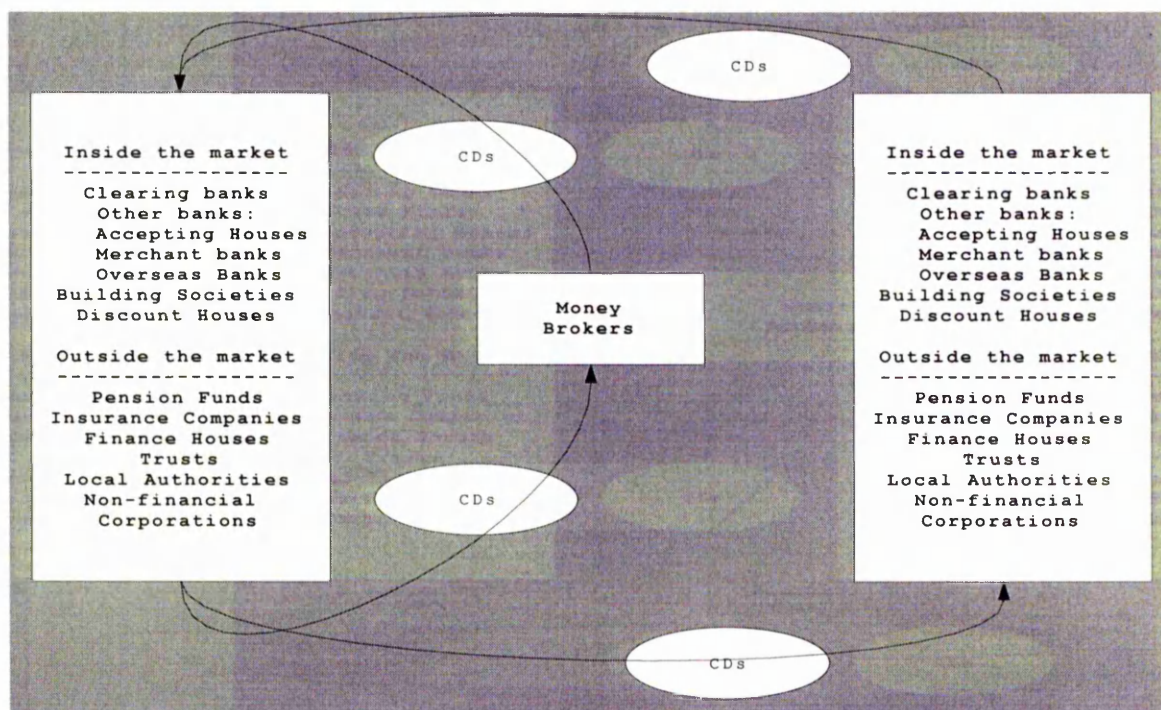


Fig. 7 The London market in certificates of deposit: functional and institutional structure

All terms in the parallel market are negotiable and they are agreed by telephone and telex. It is a real "over-the-telephone" trade. Money brokers are preferred as intermediaries when the market is volatile or when the institutional participants need a spread or anonymity. Brokers and dealers in money undertake two-way trade (buying and selling), and do it in money as well as in CDs. Uniting in their operations all the sectors of the short-term financial markets, they also deal in the gilt-edged market and spot-FOREX, as well as in forward-rate agreements, OTC-options, and swaps.

Discount houses have become active participants in the interbank market, which they treat as an alternative to the discount market, lending an extra supply of money. Additionally, they can lend money to banks or building societies late in a day at a penalty rate, borrowing late from the Bank of England, and virtually undertake an arbitrage between two sectors of the market.

Certain other financial companies use and support the market in short-term instruments, such as bills and CDs (see, for example, Bain, 1992: p. 18-19). These include discount companies, stock exchange money brokers, gilt-edged market makers, and inter-dealer brokers, but these are smaller in scale and importance. Together with the discount houses they provide well-developed facilities for borrowing and lending short money and short-dated stock. The existence of such facilities distinguishes the London money market from the experience of other money markets. There is "an ability to offset each other's cash surpluses and deficiencies through the money market. Until comparatively recently this meant the traditional money market. Today that task is shared between the traditional money market and interbank sterling market" (Einzig, 1966: p.16).

There are two main indicators of the value of short-term money in the UK: the rates of borrowing from the discount houses in the discount market and the LIBOR² in the parallel market.

² LIBOR - London interbank offer rate.

2.3 The Money Market in the United States

The system of short-term financial markets in the USA includes the money market (consisting of the government securities market and the federal funds market) and a number of other markets: markets in commercial paper, bankers' acceptances, CDs, and financial futures (Wilson, 1993; Campbell, 1988; Carter and Partington, 1981; Fabozzi, Modigliani, Ferry, 1994) (Fig. 8). We follow here Campbell's approach, which does not include FOREX operations in the set of short-term financial markets, considering them as a sphere of the simple conversion of one currency into another, although, as in the UK, FOREX operations constitute a necessary complement to the short-term financial markets.

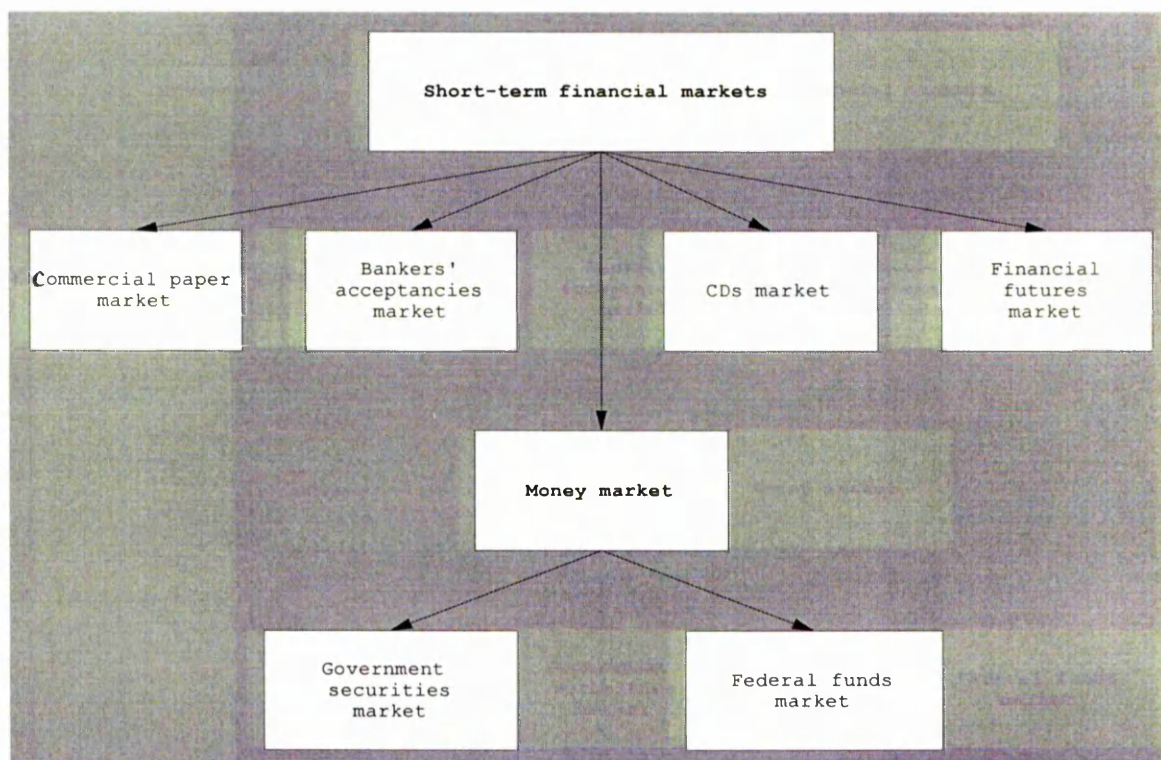


Fig. 8 Short-term financial markets in the USA

If we compare the diagram for the UK (Fig. 3) with that for the USA (Fig. 8), some difference is obvious. One difference is in the significance of different instruments for the money market. The set of instruments circulating in the short-term financial markets in the two countries is more or less the same. Government bills and bank bills are the most active instruments in the discount market in the UK, and, hence, the bank bills market (an analogy of bankers' acceptances in the USA) is an important part of the money market in the UK. The government securities market, with longer periods of circulation (more than a year), has a particular importance among the short-term financial markets in Britain. The market for certificates of deposit is an important part of the parallel market in the UK. The "Eurobond" market is a specific feature of the London financial markets.

The government securities market deals with various short-term securities: Treasury bills as well as Treasury notes and bonds and some other paper approaching maturity. The trade in Treasury bills forms a major sector of the market. The whole system of trading in government securities is multilevel with officials of the Federal Reserve System (the Fed) on the top and main investors at the bottom (see Fig. 9).

The REPO (repurchase agreement) is a dominating form of secondary trade in government securities in the USA. REPO is a responsibility to purchase back previously sold securities at a definite time and a definite price. Therefore, REPO is a

form of secured trade. A tender is a form of primary distribution of government securities in the USA, using the procedure of advanced orders for new issues of securities.

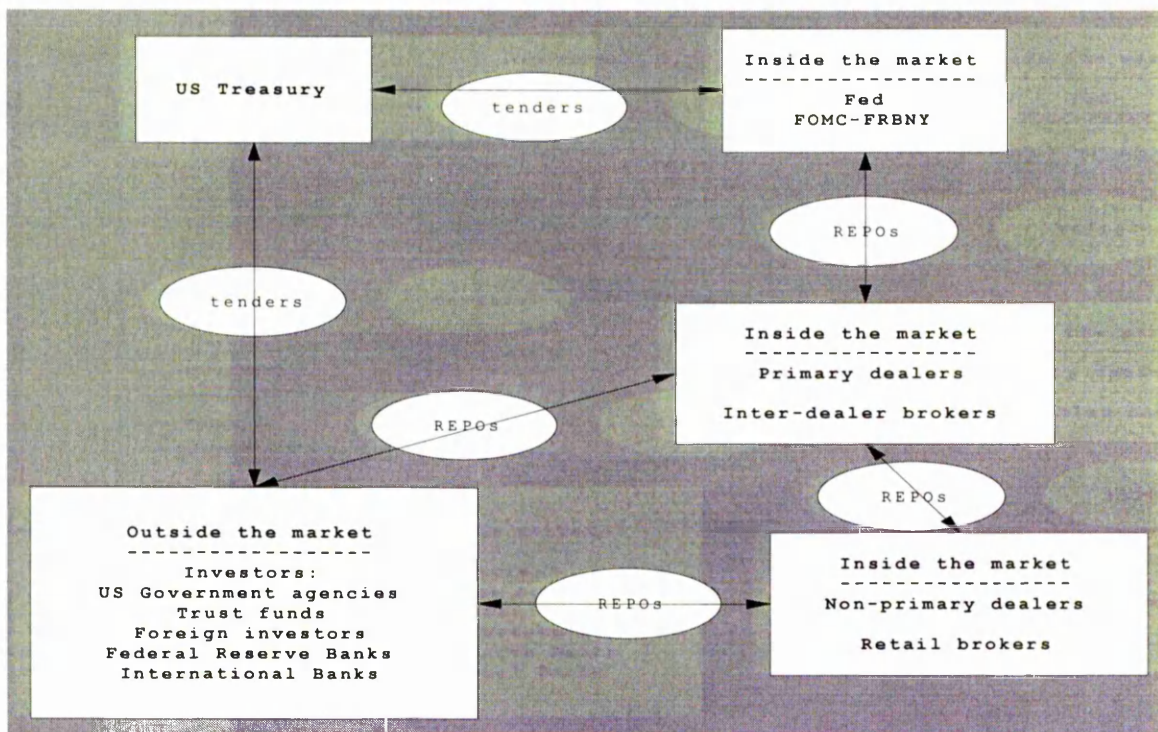


Fig. 9 The USA government securities market: functional and institutional structure

Different institutions operating in the role of investors can participate in the Treasury bills' tenders (Carter and Partington, 1981: p. 178-181). Commercial banks and other institutions, and the Fed itself, tender for Treasury bills, though there is no responsibility for a specific institution, or a group of them, to subscribe for the whole issue of bills (as is the case for the discount houses in Britain).

The Fed authorities use the market as the main field of intervention for the purposes of credit and monetary control. In the USA a "shared responsibility" exists, with the Treasury responsible for debt management and the Fed dealing with monetary regulation. The Federal Open Market Committee

as a policy-making body, and the Federal Reserve Bank of New York as an executive body, carry out open market operations in order to fulfil a set of objectives. In the short run, these objectives are concerned with the dynamics of the monetary aggregates and with the situation in the Federal funds market. Therefore, the activity of the Fed in the market is very much policy oriented, setting the targets for the monetary aggregates' movement, as a first priority, and facilitating a convenient mechanism for accommodation of banks' money surpluses or deficiencies, as a second. The following "chain" of trade in Treasury bills contains no "lender of last resort" facilities: the Fed - a dealer - an investor. The role of lender of last resort is not undertaken by the Fed (the Bank of England acts as a lender of last resort for the London money market). In the words of H. Carter and I. Partington, "...the philosophy underlining the provision and use of Federal Reserve loans is somewhat different from that prevailing in the U.K. ... The Federal Reserve System had taken for many years - a view which seems to have changed - that borrowing from the Federal Reserve is a privilege and not a right..." (Carter and Partington, 1981: p. 188). One of the "money centre banks" (clearing banks) assumes the role in cases of urgency for non-bank dealers lending expensive short money. Bank-dealers use the less expensive federal funds market. The Fed supports the liquidity of the market through REPOs with the primary dealers in the course of secondary trade in the market, but, as was said before, it is the second priority for the Fed.

The trade between the Federal Reserve Bank of New-York and the primary dealers takes the form of repurchase agreements (REPOs), of reverse REPOs, or, more rarely, of outright purchases later in a day. REPOs are mostly done by the Fed overnight or over-weekend and occasionally for up to 7 days (Campbell, 1988: p.111).

The highest level of mediation in the market is the level of primary dealers and inter-dealer brokers. To be a primary dealer in Treasury bills and other Treasury securities means to take on the following responsibilities:

- (i) to stand ready to buy and sell Treasury securities (e.g. to provide the bid and ask prices for them);

- (ii) to maintain a "reasonable" standard of activity;

- (iii) to fulfil adequate capital requirements (Campbell, 1988: p.114); and

- (iv) to be registered as a primary reporting dealer with the Fed (reporting to the Markets Reports Division).

In return, a primary dealer gains the privilege of bidding for Treasury securities to the Federal Reserve Bank of New-York in the course of its everyday open market operations, or of conducting reverse REPOs.

Secondary trade in Treasury securities for the purposes of liquidity management and speculation takes place mainly among dealers directly or through inter-dealer brokers, between primary and non-primary dealers and investors, and among investors directly or through retail brokers (Carter and Partington, 1981: p. 178-181). Major forms of that trade are again REPOs or reverse REPOs for short periods of time:

overnight, over-weekend, or 7 days on average. The primary dealers also provide the network for borrowing securities, as do the Stock Exchange money brokers in Britain. It is done by a simple loan or by reverse REPOs.

The inter-dealer broker services are in demand when anonymity of transactions is required. They also provide easy access to information about market conditions, which is available to all participants at the same time. The retail brokers do somewhat the same, but serve a broader circle of customers, and, in addition, guarantee the execution of all trades.

The market in federal funds is specific to the USA. It exists in the USA due to the fact that every depository institution is entitled to keep a certain balance in one of the Federal Reserve Banks and there are surpluses of such money available for accommodation. It serves the same function as the interbank money market in Britain; it helps banks and other financial institutions to cope with temporary imbalances (Fabozzi, Modigliani and Ferry, 1994; Hamilton, 1996; Kohn, 1993).

All deposit-receiving institutions in the USA participate in the market: commercial banks, saving banks, saving and loan associations, and credit unions. Some institutions usually act as borrowers (small rural banks, quasi-government agencies such as the Home Loan Banks or the Federal Home Loan Mortgage Corporation), others - as lenders (large urban banks, Japanese banks) in the market (Hamilton, 1996: p. 29). The institutional and functional structure of the market is

shown in Fig. 10 (based on Kohn, 1993; Wilson, 1993).

Some depository institutions, large banks, act as dealers in federal funds, but not significantly. Such activity worsens the state of a bank's balance.

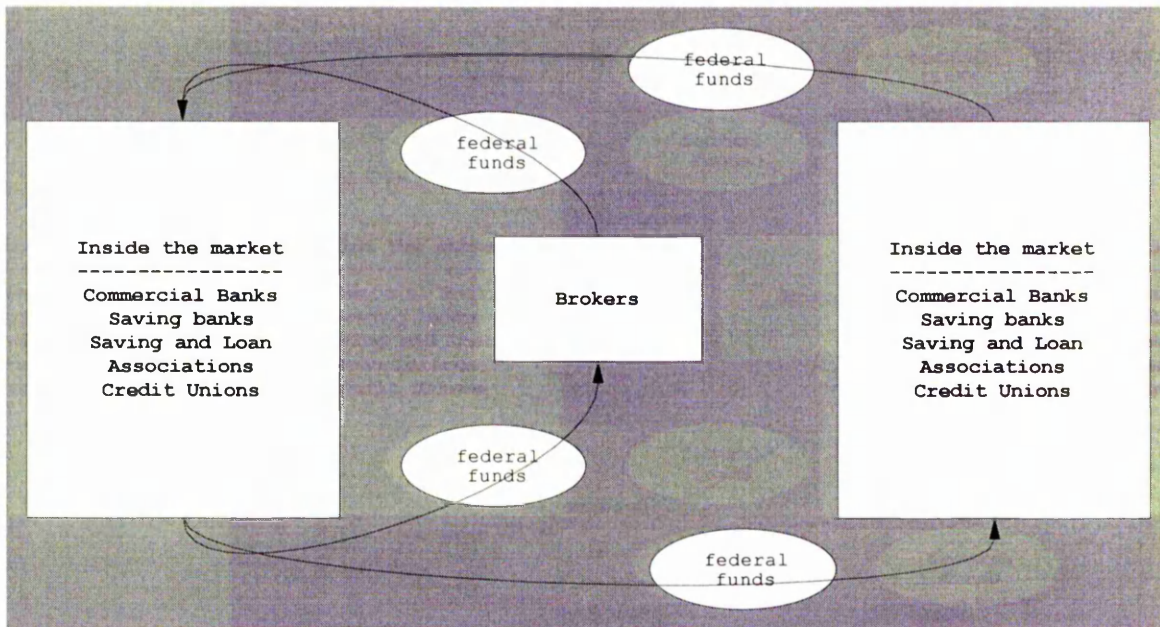


Fig. 10 Federal funds' market in the USA: functional and institutional structure

There are two types of trade in the market: overnight trade and term trade. Term trade is executed for a period anywhere from a week up to a year, but with usual terms of 30, 60, and 90 days. Overnight trade in Federal funds is mostly direct trade ("60:40 in favour of direct transactions" (Campbell, 1988: p.120)), whereas the term trade is organised mostly through the brokers. Neither overnight nor term trades are secured; neither provides a basis for reserve requirements. "To limit its risk, a bank will lend only to another bank to which it has extended a line and only to the amount specified by the line (Hamilton, 1996: p. 29).

Brokers' services are used

- to get access to concentrated information;
- to trade in relatively big amounts;
- for an easier matching of transactions in term trade;

or

- simply to get the feel of the market.

Compared to other sectors of the money market, the trade in federal funds is more expensive than the trade in government securities, but the funds are immediately available to the purchaser. The term trade in federal funds is preferable as a way to raise money when it is cheaper than the operations in CDs or Eurodollars. Similar to the LIBOR, the rate in the federal funds market is referred as to the main "price" indicator of the money market in the USA.

Two sectors of the market - the government securities market and the market in federal funds - are connected to each other, because participation in the trade in Treasury securities changes the reserve position of a bank, and, therefore, the amount of federal funds available for trade.

Table 1 presents some important characteristics of the other three sectors of the money market considered in this study: the markets in bankers' acceptances, commercial paper, and CDs (based on Campbell, 1988; Kohn, 1993; Fabozzi, Modigliani and Ferry, 1994).

These markets do not constitute important parts of the money market in the USA. They are relatively small, and do not provide an important source of highly liquid financial resources. They are complementary sectors to the major

sectors of the money market in the USA.

Table 1. Characteristics of the other three sectors of the US money market

	Bankers Acceptances	Commercial Paper	CDs
Issuers	Commercial banks	Non-financial companies Foreign banks	Commercial banks
Underwriters³	Commercial banks	Commercial banks	Commercial banks
Intermediaries	Institutions -dealers in the money market	Institutions -dealers in the money market	Institutions -dealers in the money market
Main investors	MMMFs ⁴ ; State & local governments; Insurance companies; Pension funds; National and foreign commercial banks	MMMFs; Trusts; Insurance companies; State & local governments; Savings and loan associations	Banks' customers
Secondary market	Small	Small	Small
Usual terms of trade	90 days	15-45 days	No real market for CDs over 6 months

If we summarise the characteristics of the UK and the USA money markets there are the following main similarities between them:

1. The markets consist of two major sectors, which complement each other in respect of risk taken by the participants and cost of operations. One sector is for secured trade,

³ Institutions distributed issues of securities.

⁴ Money market mutual funds.

the other is for unsecured trade.

2. Government securities play an important role in the secured sector of the market in both countries.
3. In both cases special institutions act as intermediaries between central banks and ordinary participants in the market - the discount houses in the UK and the primary dealers in the USA.
4. The central banks of both countries conduct their monetary policy via the secured sector of the market.

There are the following main differences between the money markets of the two countries:

1. The same financial instruments play different roles in the two sectors of the money market.
2. The Federal Reserve System, unlike the Bank of England, does not always stay ready to act as a lender of last resort for the participants of the secured sector of the money market. The Fed can support the liquidity of the market through REPOs with the primary dealers in the course of its daily operations in the secondary market for government securities.
3. Different forms of trade are used in the secured sectors of the money market in two countries: secured borrowing in the UK, REPO/reverse REPO in the USA.
4. Direct unsecured interbank trade in the USA is organised in the form of trade in federal funds. In the UK the form is the trade in CDs, interbank deposits and local authorities deposits.

2.4 The Money Market in Japan

The money market in Japan gives a "diversified" example of such markets, with many institutions being involved in trade, and with many instruments actively in operation (Wilson, 1993; Viner, 1988; Fabozzi, Modigliani and Ferry, 1994; Das, 1993; Henning, 1994; Ichimura, 1993). The main set of financial institutions participating in the market includes different types of banks (the Bank of Japan, city and regional banks, long-term credit banks, trust banks, banks for co-operatives, foreign banks), credit associations, security companies, and insurance companies (Henning, 1994: p. 40-41; Das, 1993: p. 580-583). The bulk of business is done in Tokyo. The main structure of the money market is presented in Fig. 11.

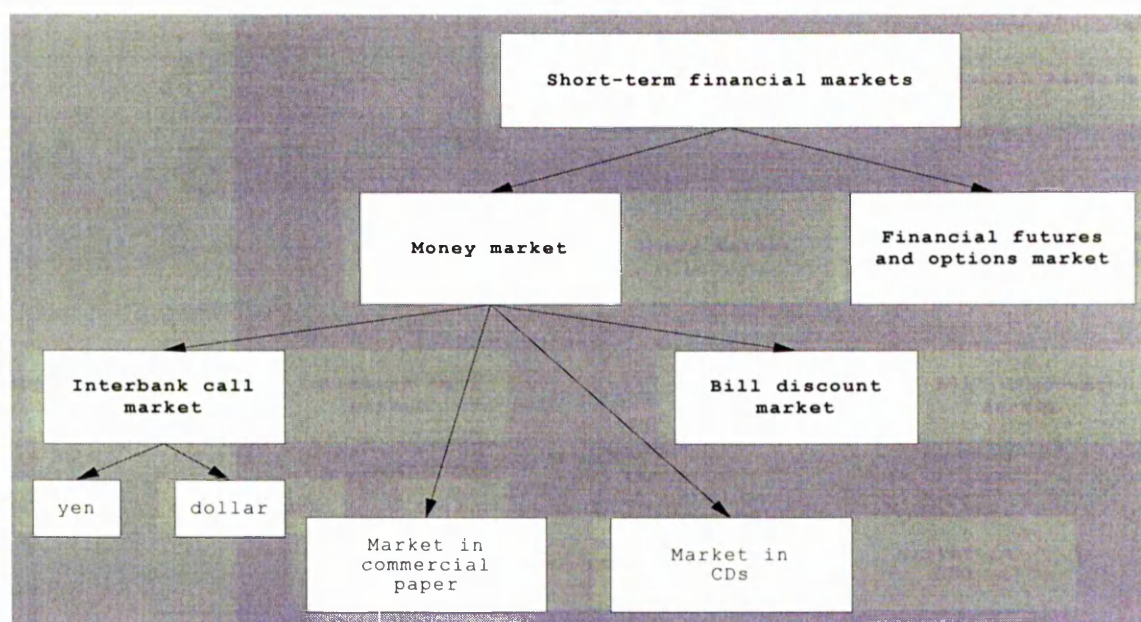


Fig. 11 Short-term financial markets in Japan

The first sectors to emerge were the interbank yen call market and the bill discount market, with strong regulation

by the Bank of Japan. The market in negotiable certificates of deposit and in commercial paper then appeared as alternatives to the first two. An interesting fact is that the interbank yen call market and the bill discount market have been treated lately more as a field for "influence" than for "regulation", and the markets in commercial paper and certificates of deposit have become the main spheres for open market operations of the Bank of Japan.

In this study we follow Wilson's (1993) approach to the structure of the money market in Japan. The major sectors of the market are the interbank call market and the bill discount market.

Interbank call money market. The functional and institutional structure of the market in Japan (presented in Fig. 12) brings to mind the discount market in Britain, in its "secured" part and in the firms forming the core of the market, standing between the institutions-participants and the Bank of Japan.

However, unlike the British experience, the reason for the broker houses being central to the market does not lie with the Bank of Japan choosing to support the sector's liquidity through operations with the broker houses. Running transactions through intermediaries in the interbank call money market is a relatively expensive way to operate.

Broker houses act as intermediaries in the call money market in Japan for several reasons: firstly, because of official guidance by the Bank of Japan in the past, and because of previously formed structures and inertia in the

present; secondly, due to the convenience of obtaining information and maintaining anonymity (in the case of secured deals), and because of the possibility of operating in large amounts.

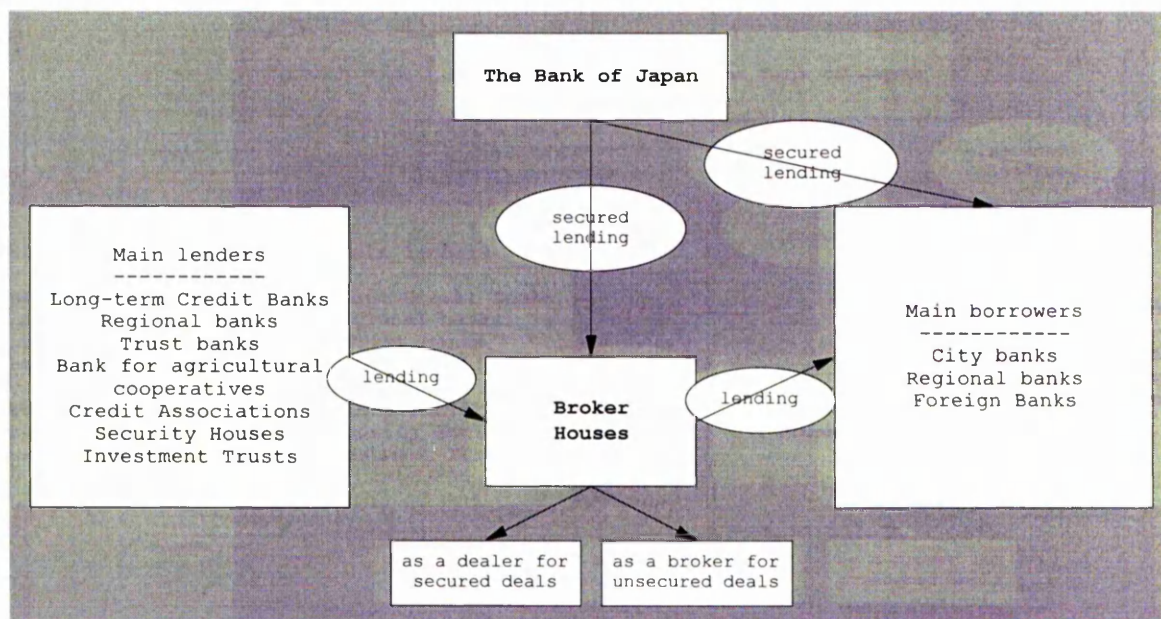


Fig. 12 Interbank call money market in Japan: functional and institutional structure

The broker houses act as dealers for secured deals on the basis of government bonds or commercial paper. In this case no "internal" lending limits are posed by contra-agents against each other. When the broker houses operate in the position of a broker, deals are not secured, and "internal" lending limits are posed by financial institutions - participants in the market.

Money is lent for a short time - up to a month on average. There are inter-day loans in Japan, in order to maintain a positive account with the Bank of Japan and a minimum reserve requirement day after day. Such money can be borrowed from the broker houses as well as from the Bank of

Japan directly (this is true for deposit-receiving institutions only). In the USA, inter-day loans also exist but for the opposite reason - to keep a minimum reserve is not required in the course of daily operations.

Large banks have credit lines with the Bank of Japan and they can use this possibility in cases of urgency. Lending is done against eligible securities: national bonds, government guaranteed bonds, local authority bonds, bank debentures (an analogy for the bank bills in the UK and for the bankers' acceptances in the USA), and some other securities. As an alternative sector, the banks can use the Euro-currency market. In the case of a lack of liquidity in the market, the Bank of Japan prefers to act through lending to the broker houses (Ichimura, 1993: p. 433-457).

The overnight call rate is the main indicator of money market conditions in Japan (Wilson, 1993: p.266).

The bill discount market has a relatively longer term than the interbank call market. Usual deals are over-a-month and up to a year. The participants in the market are the same as in the interbank call money market. The functional and institutional structure of the market is shown in Fig. 13. Deals are always executed through the broker houses. This practice is very close to that of the UK. The only instrument of trade is a bill of exchange, which is based on the firms' bills and used by financial institutions in exchange with the broker houses, and by the broker houses for borrowing money from the Bank of Japan. There is no market for bankers' acceptances in Japan, though several attempts to start one

have been made using the security houses as possible intermediaries.

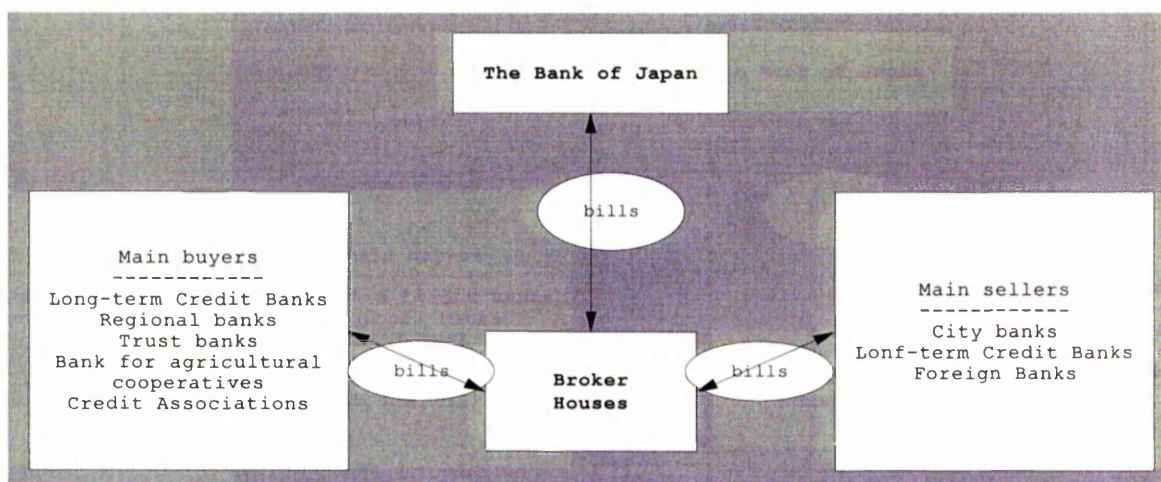


Fig. 13 The bill discount market in Japan: functional and institutional structure

Only recently has a Treasury bill become an active instrument of the market. The specificity of the money market in Japan is in the use of a broad set of bills for money market operations: government, bank and corporate bills. This specificity was determined by a positive balance of the budget in previous years when there was no need to place government securities into circulation (Henning, 1994: p. 74-75). In recent financial years Japan has experienced a budget deficit. "The substantial budget deficits resulting from the two oil "shocks" led the Ministry of Finance to allow Japanese banks to sell government bonds in the secondary market..." (Viner, 1988: p. 127). In the 1993 financial year such transactions came to 6,694 billion of yen, which by the 1996 financial year had grown to 21,071 billion of yen (IMF Staff Country Report N98/113, 1998). "Japanese government debt is divided into construction bonds (used to finance

public investment) and deficit financing bonds" (IMF Staff Country Report N98/113, 1998: p.43). Operations with government bonds have become popular in the situation of prevailing instability in the national financial markets in the last years (Hara, 1998). Now when operations in government bonds take place, they are done through the broker houses and in the form of REPOs.

From time to time the Bank of Japan intervenes in the market, selling bills in order to "mop up" an excess of liquidity, or buying them when there is a deficit of liquidity in the market. But, in contrast to the UK, the Bank does not always stand ready to trade in bills with the broker houses. There are other possibilities for the Bank to intervene - trading in certificates of deposit, commercial paper, and interbank call loans (Ichimura, 1993: p. 433-457).

The market in CDs is not only an important source of liquidity for the financial institutions, but also an active instrument of the Bank of Japan's open market operations. The functional and institutional structure of the CDs market is shown in Fig. 14.

The banks usually put "internal" limits on the amounts of other banks' CDs in their portfolios. Subsidiary companies of the banks act as dealers in the secondary market. Security houses and broker houses participate as dealers and brokers. Only in a dealer position can the broker houses undertake REPO. Broker functions are served mostly by the security houses.

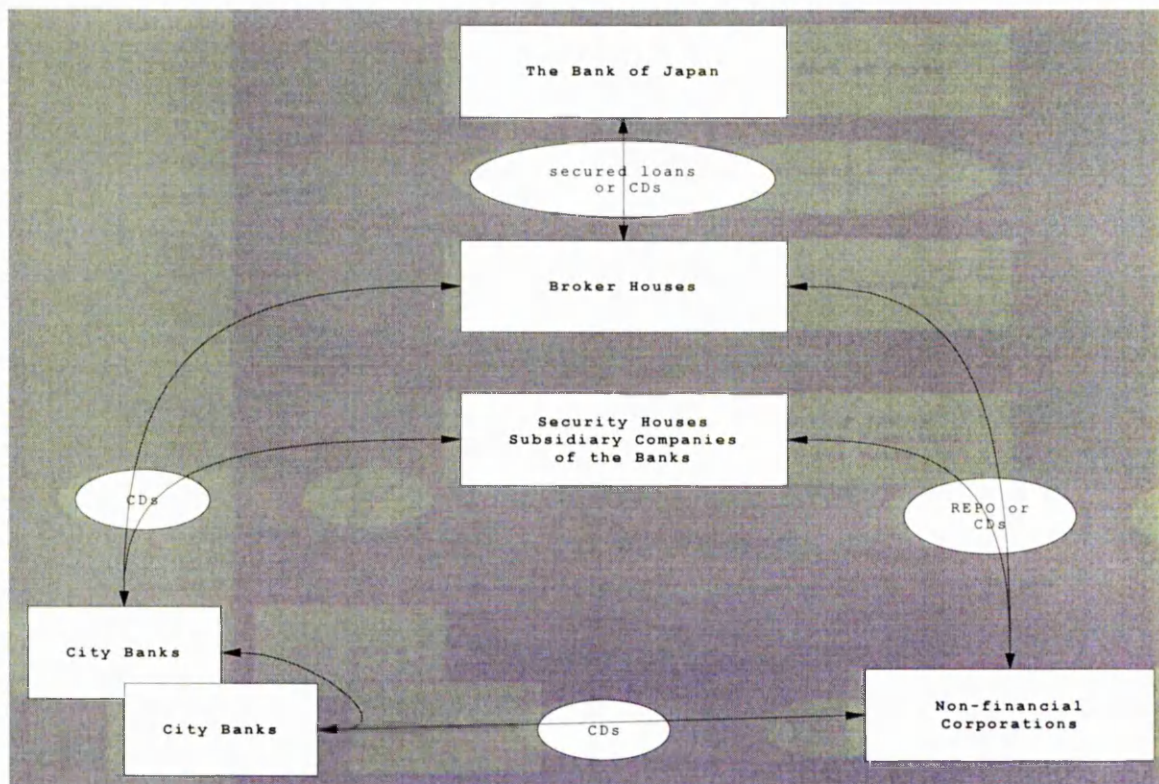


Fig. 14 CDs' market in Japan: functional and institutional structure

The usual term for a repurchase agreement in CDs is 7 - 30 days. For an ordinary deal it is from 2 weeks up to 2 years.

Negotiable CDs have recently become one of the instruments of the Bank of Japan's open market operations. In order to place additional money into circulation, the Bank of Japan trades in CDs with the broker houses, or makes loans to them for buying CDs in the market.

A relatively new (from 1987 (Wilson, 1993: p.256; Viner, 1988: p. 154)), but already developed sector of the money market in Japan, is the market for commercial paper (the functional and institutional structure of the market is presented in Fig. 15). Commercial paper is issued by companies permitted to do so and the leading companies are

not required to have a credit line with a bank. Big banks serve as underwriters for such securities and the broker houses and security houses act as intermediaries in a broker-dealer "dual capacity".

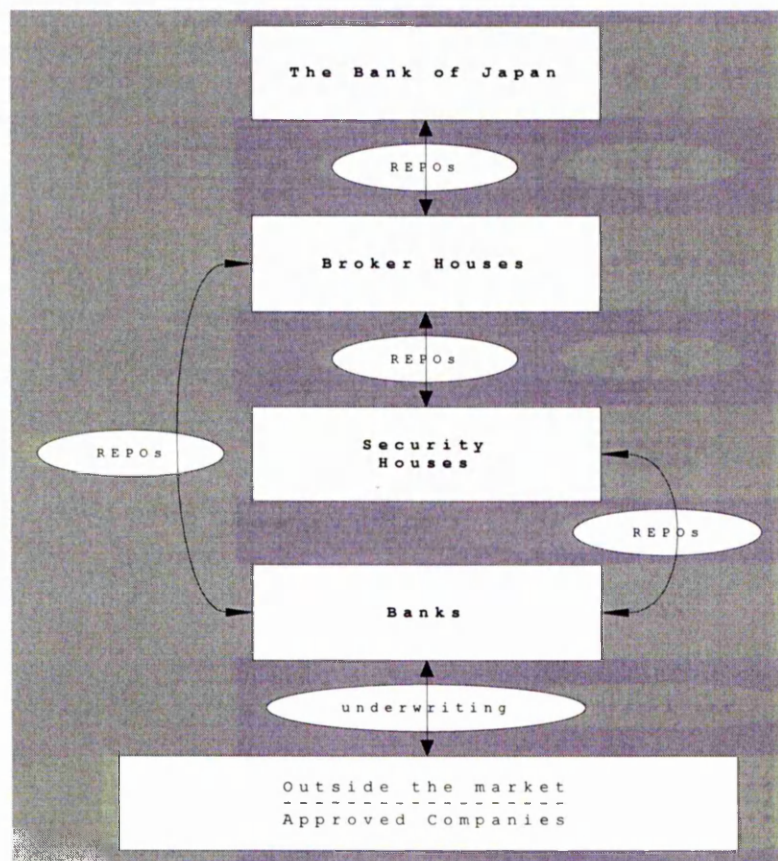


Fig. 15 The commercial paper market in Japan: functional and institutional structure

The secondary market in commercial paper was widened considerably when the Bank of Japan began to undertake open market operations in commercial paper. They are executed also through the broker houses, as overnight REPOs. The broker houses, in turn, deal in commercial paper with the banks and security houses, also on the basis of short-term REPOs. From the point of view of a trade technique, this market resembles that of Treasury bills in the USA.

If we compare the characteristics of the money markets in

the UK and Japan, the following main similarities between them are highlighted:

1. Two major types of deal are possible in the market in Japan - secured and unsecured deals. This is also a characteristic of the UK money market.

2. The broker houses play a distinct role in money market operations, being the real "buffer" between the Bank of Japan and other financial institutions, both in conducting deals and in getting information. Discount houses stand in such a position in the UK.

3. The Bank of Japan, like the Bank of England, acts as a lender of last resort, supporting the liquidity of the market.

There are the following main differences between the two markets:

1. The Bank of Japan acts as a lender of last resort in all sectors of the money market.

2. The corporate bill is an active instrument of money market operations in Japan.

2.5 The Money Market in Singapore

The role of an international trading centre, the advantages of time zone, and the recent history of economic development, predetermined the position of Singapore as an international financial centre. The experience of the Singaporean money market is important, not only as an example of a newly established market, but also because this market

- has already been integrated into international

financial markets;

- has changed between two different structures of the money market;

- accommodates both domestic and international money markets (IMF Staff Country Report N 99/35, 1999).

In this research we follow Wilson's (1993) approach to the functional and institutional structure of the Singaporean money market. The structure of Singaporean short-term financial markets is presented in Fig. 16. The modern money market in Singapore includes the interbank market and the government securities market.

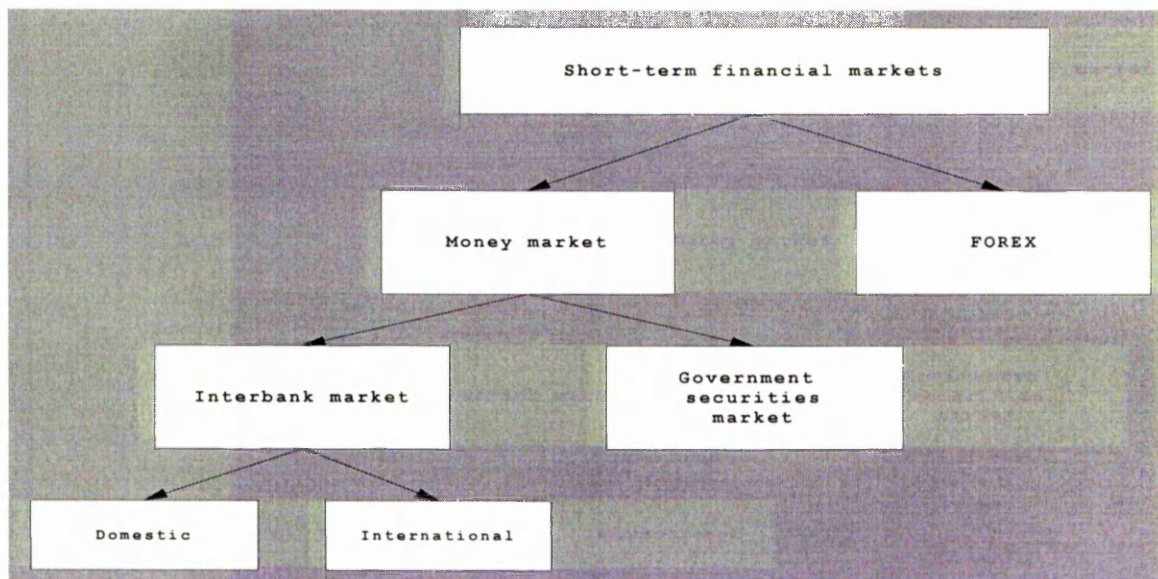


Fig. 16 The Singaporean short-term financial markets

The domestic money market in Singapore appeared as recently as the late 1960-s - early 1970-s and consisted initially of two sectors: the interbank market and the discount market. The interbank market emerged first, and the discount market was established institutionally with the setting up of the discount houses in the early 1970-s. The following principal changes in the market were linked with

the discount market.

The interbank market exists in two forms: the market in Singaporean dollars (domestic interbank market), and the market in "Asian" dollars (the Asian dollar market). The structure of the interbank market resembles those of the UK and US money markets. The major participants in the market are the banks. In the domestic interbank market (see Fig.17), the merchant and foreign banks mostly perform as borrowers, while the commercial banks act as lenders.

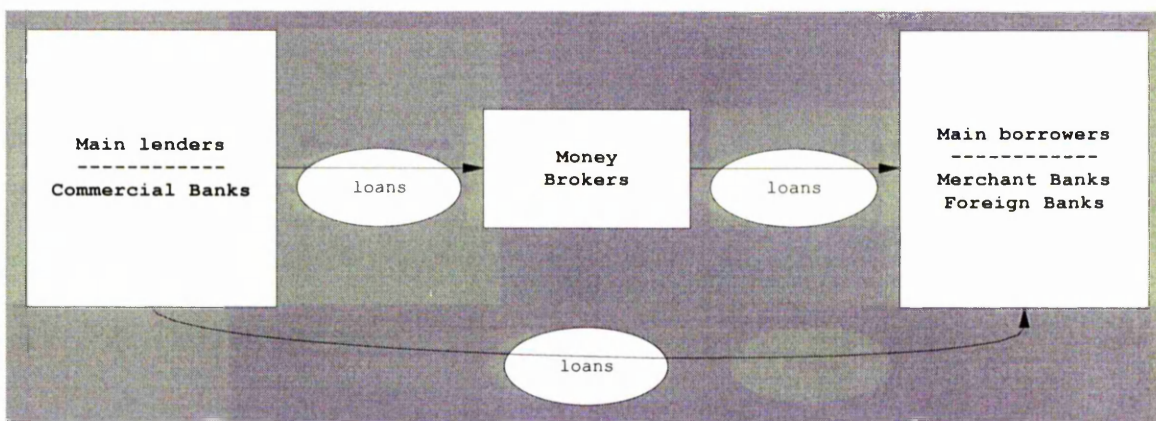


Fig. 17 Domestic interbank market in Singapore: functional and institutional structure

Transactions in both cases are generally done through money brokers (through international money brokers in the case of the Asian dollar market) in the form of unsecured loans. Credit limits are usually set by each bank towards the others. Usual terms for deals are overnight, 1 week or up to 12 months for the domestic market, and 1, 3, and 6 months for the Asian dollar market (Wilson, 1993: ch.12; IMF Staff Country Report N99/35, 1999).

Before the restructuring in 1987, the discount market was a sphere for trade in a set of short-term financial

instruments: Treasury bills, certificates of deposit, bills of exchange, commercial paper, short-dated government securities - run by the banks, discount houses, and money brokers with the participation of the Monetary Authority of Singapore (MAS - the Central Bank of Singapore). While the MAS was providing liquidity to the system through operations with the discount houses, the whole market was functioning very close to the "British model"⁵. In 1987 a considerable reorganisation of the market was undertaken in order to "switch" to the "American model"⁶. The "old" discount market is still in place in terms of existing trade in bills, CDs, and commercial paper, mostly among banks with the mediation of the discount houses, but the secondary market is relatively small.

The modern structure of the money market assumes two major elements: the interbank market and the government securities market. A new institution of primary dealers in government securities was introduced. To be a primary dealer means -

to maintain ongoing two-way quotes in all short-term government securities;

to ensure liquidity of the market under all conditions;

⁵ Major intermediary institutions (Discount Houses in the case of the UK) trade in a set of money market instruments and can use these instruments to get a secured loan from the central bank.

⁶ Major intermediary institutions (primary dealers in the case of the USA) trade only in government securities in the secured sector of the market and have a responsibility to participate in primary distribution of these securities.

and

to apply for new issues in amounts corresponding to a share in the market turnover.

All new issues of Treasury bills may be bought only through the primary dealers.

The functional and institutional structure of the government securities market in Singapore is shown in Fig.18. This sector of the market is used by the MAS for running open market operations. Deals in the market are being done in the form of REPOs or reverse REPOs, overnight or "term-REPOs", which are from a few days up to a month.

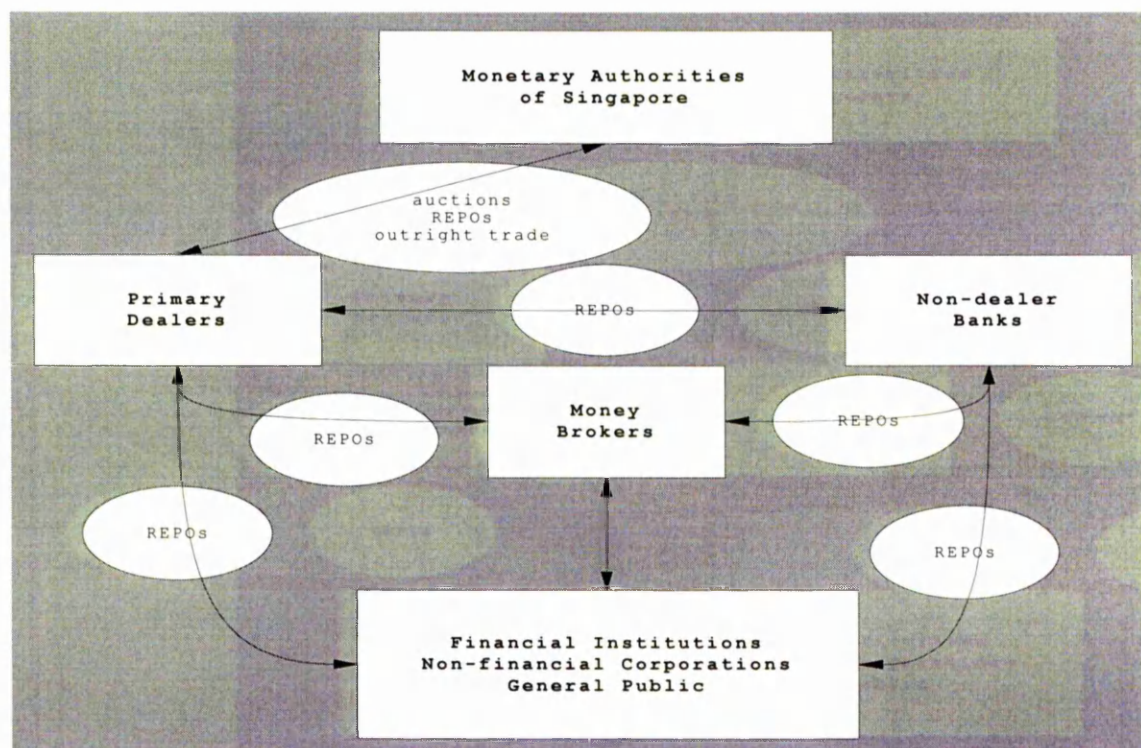


Fig. 18 Government securities market in Singapore: functional and institutional structure

Some of the non-dealer banks also provide two-way quotes in the secondary market for all financial institutions, non-

financial corporations, and the general public.

The trade of the MAS in government securities is conducted through the primary dealers, mostly by means of REPOs or reverse REPOs. From time to time outright trade is undertaken. Usually both types of deals are done overnight. Rarely, the MAS also uses export bills in its open market operations.

Thus, the modern structure of the Singaporean money market is very close to that of the USA, and, therefore, has the same main similarities and differences with the structure of the UK money market that were presented in part 2.3 of this chapter. The only important difference of the Singaporean money market from that of the United States is an absence of trade in federal funds. Trade in the interbank market in Singapore takes the form of simple loans and in this respect it is closer to the UK market than to the USA market.

2.6 Conclusion

Now we can list the main similarities in all four examples of the money market. They are:

- The markets consist of two main sectors which complement each other in terms of the risk taken by the market participants, cost of operations, and the role of the central bank. They are the secured trade and the unsecured trade sectors.

- The central banks of the four countries participate in trade in the secured sectors of the market, supporting its

liquidity and conducting short-term monetary policy.

- There are special intermediary institutions in the secured sectors of the market in all countries. They assume the role of a buffer between the market participants and the central bank, playing the role of a lender of last resort for ordinary participants of the market.

The main peculiarities inherent in the four national examples of the money market are:

- Different money market instruments (treasury, bank and corporate bills, CDs) play different roles in the operations in the secured sector of the market in the four countries.

- Different forms of trade are used in the secured sector of the money market: secured borrowing or REPO/reverse REPO.

- The central banks of the four countries support the liquidity of the market and of participating institutions in different ways.

The discussion so far has looked at similarities and differences in the structure of the money market in the UK, USA, Japan and Singapore. These concerned the main sectors, main traded instruments and forms of trade (functional structure), and the major participants in the market (institutional structure). In the next chapter we identify from the similarities an "ideal type" of money market.

Chapter 3

An "Ideal Type" of a Well Developed Money Market

3.1 Introduction

By "ideal type" we understand in this thesis the necessary set of components which must exist in any national money market if the market is to be well functioning. This "ideal type" can be extracted from national patterns as a set of common components. These components are

- main sectors of the market and their specific characteristics;
- main traded instruments;
- major institutional participants and their roles in the market;
- central monetary authorities' participation and "lender of last resort" facilities;
- forms of trade in different sectors of the market; and
- major indicators of the market's activity.

This approach to a well functioning money market intersects with discussion of the efficient financial market in Blake (1990: p. 243) and of the efficiency of the financial system in Bain (1992: p. 286-287).

The reviewed literature does not compare directly the four examples of money market used in this study, although, when an author discusses a national money market, he (or she) usually makes a comparison with other national money markets and proposes common characteristics of the different money markets (this refers, for example, to Campbell (1988);

Einzig (1966); Wilson (1993)). Literature on the theory of financial markets and intermediation gives generalised statements about the major characteristics of a money market and confirms them by examples from national money markets (this refers, for example, to Kohn (1993); Smith (1978); Dougal and Gamnitz (1986); Fabozzi, Modigliani and Ferry (1994); Goodhart (1988)).

3.2 The Main Sectors of the Market

The "ideal type" has two main sectors: the market for unsecured trade and the market for secured trade. The author did not find in the literature any direct indication of this common characteristic of money markets, though it was pointed out in relation to national cases of the market (Einzig, 1966; Wilson, 1993).

The market for secured trade supposes security on the borrower's side of a deal in the form of "fine" financial assets (government bills or bonds, eligible bank bills, approved commercial paper).

The market for unsecured trade (the parallel market in the UK; the market for federal funds in the USA; the inter-bank call market, where intermediary institutions act in the capacity of a broker, and the market in CDs in Japan; the inter-bank market in Singapore) is characterised by the following features, which are common for all observed national cases:

(i) unsecured loans and sometimes loans backed by bank guarantees (when a loan is guaranteed by the name and

reputation of a bank, but not by a definite financial asset);

(ii) flexibility in trade conditions compared to other sectors of the market;

(iii) often an absence of intermediary institutions, and, therefore, trading at this sector may be cheaper (under the condition that the time of completion of a deal in different sectors of the money market is equal); and

(iv) setting of mutual limits on amounts traded.

The market for secured trade (the discount market in the UK; the market in government securities in the USA; the inter-bank call money market, when intermediary institutions act in the capacity of a dealer, the bill discount market and the market in commercial paper in Japan; the government securities market in Singapore) is characterised by the following features, which again are common for all four national cases:

(i) secured loans;

(ii) government securities are usually the most important instrument in the market;

(iii) special intermediary institutions play a "buffer" role between central banks and other participants in the market; and

(iv) short-term monetary policy operates in this market.

3.3 The Main Traded Instruments

The literature on financial markets suggests certain desirable features of money market instruments: "... in the

short-term market, as the word "money" suggests, the instruments traded are "near money" and consequently face little price risk" (Dougall and Gaumnitz, 1986: p. 6); "money market instruments must meet all the requirements for easy secondary trading and, in addition, must carry very little market or default risk" (Smith, 1978: p. 269).

A broad circle of different instruments, corresponding to the above requirements, is traded in the money market of the four countries. These include Treasury bills, short-dated bonds and bonds approaching maturity, local authorities bonds, CDs, bank bills and banker acceptances, inter-bank deposits, and commercial paper. All these instruments can be divided into three main groups: government securities, bank securities and corporate securities. The principle feature of a well-developed money market is that many instruments are in circulation, which reflects the fact that it is not only the government that can support the liquidity of appropriate sectors of the market. It also indicates that the money market is more stable due to the existence of alternative possibilities for balancing their cash position for the market participants. "In less well developed countries, money market transactions may be confined to negotiated adjustments among banks and with the Central bank or monetary authorities" (Smith, 1978; p. 268-269).

3.4 The Main Institutional Participants and Their Roles in the Market

Unsecured trade. Banks and other deposit-receiving

institutions - accepting houses, building societies, credit unions, savings and loan associations, credit associations - are the major participants in this sector in all countries. However, a broader circle of participants is usually involved. Discount houses, pension funds, insurance companies, finance houses, trusts, security houses, non-financial corporations also actively operate in the market as buyers and sellers (see, for example, Einzig, 1966: p. 41; Kohn, 1993: p. 227-240; Wilson, 1993: p.4; Campbell, 1988: part IV). When central bank reserves are traded (as in the USA in the case of a surplus of federal funds, or in Japan in the case of a surplus of minimum reserve balances), only deposit-taking institutions participate.

Trade in the sector is organised directly or through intermediaries. They act in the position of a broker and

- supply concentrated information about the market and the current spread;

- help to match transactions and to trade in big amounts;

- guarantee the anonymity of a trader when required (see, for example, Einzig, 1966: p.94).

Secured trade. Trade in this sector of money markets is characterised by a long list of participants, just as in the case for unsecured trade (see, for example, Enzig, 1966: p.32, Wilson, 1993: p. 4; Campbell, 1988: part IV). A wide spectrum of financial institutions is involved: different banks, funds, financial companies, finance and security houses, credit associations, and, in addition to these,

government agencies and non-financial corporations.

Two features of this sector need to be stressed.

1. Central banks always participate in two capacities: in the course of their open market operations and/or as a lender of last resort. This leads to the sector being more stable and more liquid, especially in times of high market volatility or of financial crisis.

2. There are specialised financial institutions, which serve as a buffer between central banks and other participants in the market. They are the discount houses in the UK and Singapore (in the case of the commercial paper market), primary dealers in the USA and Singapore (in the case of the market in government securities), and the broker houses in Japan.

In respect to trade in government securities (especially in Treasury bills) these specialised institutions gain some privileges in the market in return for undertaking specific responsibilities in relation to the central bank. Typical responsibilities involve:

- creating a secondary market through two-way quotes for traded bills and bonds and maintaining a reasonable volume of operations;

- participating at bill tenders, and occasionally assuming an obligation for the collective underwriting of a whole weekly offer of the bills (the UK, Singapore); and

- supplying trading information to the central bank.

In return such institutions gain the privilege, in general, of priority in dealing with the central bank: in

borrowing from it, in trading in bills, and in bidding for securities in the course of the bank's open market operations. In some cases, the primary distribution of Treasury bills and bonds (the USA, Singapore) and secondary trade in Treasury bills and bonds (Singapore and Japan) can be undertaken only through these specialised intermediary institutions.

There are several reasons for the use of specialised intermediary institutions by central banks, including the following:

- concentration of effort in the regulation of money and securities flows;
- easier and cheaper settlements; and
- dealing limited to large and reliable institutions.

If such specialised intermediary institutions could be considered as intermediaries of the first level, there are also intermediary institutions of the second and the third levels. The second level refers to the inter-dealer brokers in the USA (who serve the needs of primary dealers) and to the money brokers in Singapore (intermediaries between primary and non-primary dealers) in the secondary market in Treasury bills. The third level of intermediation refers to the activity of retail brokers in the USA serving the trade within the group of non-primary dealers in Treasury bills.

The author has not met in the reviewed literature any discussion of such a division into three levels of intermediation at the market. However, it seems reasonable to make such a division, because it corresponds to three

functional levels of money markets: the first deals with operations of central banks, the second - with operations of special "buffer" institutions, and the third - with operations of the rest of the participants in the four national money markets. The three functional levels of the market are presented in Figs. 4, 9, 12, 13, 14, 15, 18 in Chapter 2 of the thesis. Unsecured sectors of the market, without participation of a central bank, usually have two functional levels and, therefore, two levels of intermediation.

There is a contradiction between Campbell's approach and this study's approach to a definition of financial intermediation in money markets. For Campbell, financial intermediaries create and sell new claims on themselves in order to fund their holdings of the securities they purchase; in other words, instead of reselling the assets they purchase, they create new assets and sell them to the market (Campbell, 1988: part 3). This study follows the broader definition of financial intermediation of Einzig (1966) and Wilson (1993), treating intermediary institutions as middlemen acting between ultimate buyers and sellers in money markets, both as a broker and as a dealer.

Since both the flow of money and the flow of securities coincide in this sector of the market, borrowing facilities exist for both money and securities. They can be arranged in different ways. They may be organised by institutions involved in trade in the sector. Examples are the network organised by primary dealers in the USA for borrowing

securities, or the money-borrowing facilities of the Bank of England. In other cases, they may be organised by external institutions (such as, the possibility that exists in the UK to borrow securities from Stock Exchange money brokers, or in the USA to borrow money from the money centre banks¹).

The practice of the four countries shows that a system of borrowing money is inevitably linked with the necessity of borrowing from a central bank (see the next part of this chapter).

Looking at the market from another point of view, two types of institution with the common aim of managing a current liquidity position are in operation: (1) borrowers and lenders, and (2) sellers and buyers of liquid near-money resources.

Especially high standards of reliability and financial stability are required of the borrowers in the market, necessitated by the fact that short-term instruments in big volumes are traded. As Smith put it, "...access to the money market as a source of new funds is limited to a relatively small number of large, well-established borrowers, such as the U.S. Treasury, government agencies, and large well-known financial and business organisations" (Smith, 1978: p. 270). In the words of Kohn, "since commercial paper is unsecured, only the largest and most creditworthy corporations are considered good enough risks to be able to raise money in this way" (Kohn, 1993: p. 212).

¹ The last possibility exists only for non-bank dealers, while bank dealers borrow from the alternative federal funds market or through REPO operations with the Central Bank.

From the demand side, large amounts of money are involved and there are no restrictions regarding the types of participants. Resources of relatively small investors are accumulated via intermediaries such as banks, financial companies, and funds (eg., money market mutual funds (MMMF) in the USA). Of this side of the market Smith writes: "A buyer's access to the market is limited only by the large denominations involved. Anyone with enough money can buy market securities" (Smith, 1978: p. 270). In the words of Kohn, "the rapid growth of MMMFs has been an important factor in the expansion of the money market itself. The funds brought into the market billions of dollars that would not otherwise have been available" (Kohn M., 1993: p. 221).

3.5 The Role of Central Monetary Authorities and "Lender of Last Resort" Facilities

Government short-term monetary policy intersects with money market activity in the open market operations of central banks. These operations are carried out by central banks in a secondary market in order to keep the money market in balance. Trade in the primary market is used for raising money for the government (in the case of government securities) or for private firms (in the case of commercial paper).

In most cases, the main securities traded are short-term government securities in the form of Treasury bills. Sometimes, eligible bank bills (in the UK) and corporate bills (in Japan) are also used as instruments of open market

operations. For open market operations to be effectively run through these instruments, "eligible" banks and big non-financial corporations issuing securities must be nearly as reliable as the government itself.

Open market operations in all cases are undertaken with the participation of specialised intermediary institutions: the discount houses in the UK, the primary dealers in the USA and Singapore, and the broker houses in Japan.

An important factor of market regulation is participation of a central bank in the market's operations - lending in cases of urgency to the market participants or operating as a "lender of last resort". The former means that the central bank stands ready to lend money in cases of urgency to a specific group of financial institutions - market participants. It differs from open market operations, because, in the case of urgent borrowing, the initiative comes from borrowing, not lending, institutions. "Lender of last resort" facilities can be provided only by central banks or by a pool of big clearing banks. The very existence of such facilities stabilises the market to a considerable extent.

The necessity of a "lender of last resort" for the stability of the market is often stressed in the literature (see, for example, Goodhart, 1988: p. 96-97). In his description of the necessary elements of a money market, Wilson writes: "...there is in addition a case for a central bank or monetary authority to act as a lender of last resort should there be a liquidity crisis and if circumstances

require it" (Wilson, 1993: pp. 4-5). Einzig stresses the higher stability of a banking system with central bank participation in the operating of the bills market: "They (banks - I.K.) may have some easily marketable securities, but first and foremost they rely on their rediscount facilities with their Central Banks for supplementing their cash supplies required to meet any unexpected withdrawals" (Einzig, 1966: p. 16).

"Lender of last resort" participation is a characteristic of secured trade in the market, and more specifically, of trade in government securities and eligible bank bills. This function exists in the UK for the discount houses, which can borrow in cases of urgency from the Bank of England, backing loans by short-term government securities or eligible bank bills. It can also be found in the USA, where the pool of clearing banks credit non-bank Treasury bill dealers against the security of their Treasury bill holdings. It is also in place where REPOs are being undertaken between primary dealers in government securities and the Fed.

In the course of their open market operations, central banks in Japan and Singapore actively deal in the market in a spectrum of different sectors. However, they assume no obligation to lend money in cases of urgency. In Japan, a group of big banks has direct credit lines with the Bank of Japan, which potentially can be used in cases of urgency, but when there is a lack of liquidity in the market, the Bank prefers to act through the broker houses. In Singapore,

the MAS trades with the primary dealers in the government securities market in forms of REPO and outright purchase. To ensure market stability under "normal" conditions, the mere presence of a central bank in a number of sectors of the market seems adequate.

3.6 Forms of Trade in Different Sectors of the Market

There are three basic forms of trade (Einzig, 1966; Wilson, 1993; Campbell, 1988) used in the money market:

- unsecured loans;
- loans secured by different instruments; and
- secured loans in the form of repurchase (REPO) or reverse repurchase agreements (reverse REPO).

For unsecured trade, the major forms of trade are unsecured loans or trade in CDs (for all four national markets).

For secured trade, trade is organised either in the form of a simple secured loan, or as a REPO or reverse REPO. Discount markets in the UK and Singapore, the bill discount market in Japan, and the secured trade in the Japanese inter-bank call market all use a simple secured loan as the main type of deal. Trade in government securities in the USA and Singapore, and in commercial paper in Japan, is carried out in the form of REPOs or reverse REPOs.

Analysing the link between a particular sector of secured trade and a definite form of trade, we came to the conclusion that there is no evident tie between any sector of the market and a specific form of trade. The form of

trade in use depends mostly on the traditions of each national market.

Lending-borrowing facilities for securities are also organised in the form of simple loans or reverse REPOs.

3.7 Major Money Markets Indicators

There are some differences among the four national examples in the type of trade which forms the basis for money market indicators. However, in our view, there is similarity in the content of all the indicators used. All of them indicate the short-term interest rate for the institutional trade in short money.

Wilson (1993) defines the following money markets indicators for four national markets. In the UK there are two main indicators of the market's state. The first is the interest rate applied to the Bank of England discount window facilities used by the discount houses. In other words, this is a trade in short money between the discount houses and the Bank of England, which is linked with the open market operations of the Bank. Another indicator is the LIBOR, which is the London interbank offer rate - the rate of short-term trade in the parallel market.

In the United States the indicator is the interest rate for short borrowing/lending from/to the federal funds market. This market is under the direct influence of the Fed, since the trade in Treasury bills affects the reserves of bank-participants and, therefore, their position in the federal funds market.

In Japan the main indicator of the money market's condition is the interest rate applied to short-term trade between the Bank of Japan and the broker houses in the sector of the market in which the Bank chooses to undertake its open market operations.

In Singapore the main indicator of the market is the short-term interest rate applied to the trade between the MAS and the primary dealers in the government securities market.

All of the foregoing indicates that the sphere where the indicator of the market's condition is defined is always a sphere influenced by a central bank, which by trading in specific sector(s) indicates a "level of support" for the whole market.

3.8 Accompanying Sectors of the Market

In all four examples of the money market, FOREX and financial derivatives markets are shown as sectors of short-term financial markets. FOREX transactions often constitute a necessary complement to the money market transactions. Financial derivatives (forwards, futures and options) are used by the market participants to hedge their transactions in the money market (Buckley, 1992: p. 246; Stoll and Whaley, 1992: p. 11). Discussing the reasons for using derivatives in money markets, Einzig says: "Expectations of changes in interest rates are the main factor giving rise to forward-forward business (in respect of the parallel money market in the UK - I.K.)" (Einzig, 1966: p. 51).

The two markets, the money market and the financial derivatives market, support each other's development (Stoll and Whaley, 1992: p.3). Without a developed market in financial derivatives, the money market is less predictable and more liable to vulnerability to internal and external factors. Without a developed and liquid money market, the market in derivatives based on money market instruments can experience difficulties in the timing of the execution of deals. Without markets in the underlying instruments, derivatives markets could not exist. As for a link between the FOREX and money markets, both markets also support each other's development. If one of them does not exist, or is underdeveloped, the other can operate independently, but this narrows the possible circle of participants and instruments used.

3.9 Conclusion

This chapter has identified the main common elements of four national cases of the money market, which constitute a crucial set of structural characteristics for any money market to be effective, and, therefore, an "ideal type" of the money market. These seven characteristics are either drawn from the reviewed literature (2, 3, 4, 5, and 6), and/or have been formulated by the author (1, 6, and 7). They are:

1. The market consists of two main sectors, unsecured trade and secured trade, which are connected to each other and complement each other in respect of the terms, risks and

flexibility of transactions.

2. Different instruments issued by governments, financial institutions and non-financial corporations are traded in the market, fulfilling the requirements of easy secondary trading and low price and default risk.

3. Financial institutions and non-financial corporations participate in the market's operations. They must be highly reliable on the supply side of the market and must have enough resources to operate on the demand side of the market.

4. A group of specialised intermediary institutions always exists which serves the function of acting as a buffer between a central bank and the participants in the market.

5. Central banks act mostly in the secured sector(s) of the market and trade mostly in short-term government securities. This is the sphere where "lender of last resort" facilities are realised and where open market operations are carried out.

6. All transactions are executed in the form of unsecured or secured loans, or repurchase agreements. There is no necessary tie between a sector of the market and a specific form of trade.

7. Interest rates in the most important sector(s) of the money market are indicators of the market's condition and of the value of short-term money in the economy. Usually these are the sectors, in which the central bank operates most intensively.

In the next chapters these characteristics will be applied to the money market concentrated in Novosibirsk (the Siberian money market).

Chapter 4

Evolution of the Russian and Siberian Money Markets, 1992 - August 1995

4.1 Introduction

The Russian money market is comprised of two levels: the national market and the regional markets. The national market contains sectors which have nationally organised trading and settlement systems in money and securities. Examples are the federal government securities market and the market for medium-term interbank loans. All such markets are concentrated in Moscow. The major participants are banks and other financial institutions in Moscow, whereas provincial (regional) banks and financial companies make up a much smaller share.

The regional money markets are the markets concentrated in several provincial financial centres of Russia. They contain "pure" regional sectors and regional parts of some national sectors of the money market. The first are based on regional trading and settlement facilities and on trading instruments of regional importance¹. The second are based on regional trading systems serving as gateways to the national

¹ Examples are the markets for sub-federal and municipal bonds of regional administrations and local interbank rouble markets.

trading systems and/or on regional settlement systems². They are also based on trading instruments of national importance, but with regional financial institutions as the main operators in the market. The existence of regional money markets is a result of several factors:

1. One factor is the slow speed of transactions between Moscow and the regional financial centres, especially those situated far from Moscow. This situation, given such a technologically backward banking system, cannot be improved quickly. Therefore, those sectors of the market which deal with short interbank trade will be regionally preserved.

2. Another reason for regional money markets to exist, especially those situated far from the central regions of Russia, is different time zones.

3. Some financial instruments attractive to regional investors and intermediary institutions are not so attractive for Moscow participants, due to

(i) the relative narrowness of local markets.

The Moscow banks and financial companies, if they operate in the local markets, do so via their regional branches in relatively small amounts;

(ii) asymmetry of information between Moscow and regional participants.

Local participants are closer to "inside" information.

² Examples are regional parts of the government securities market.

They incur less risk operating in local sectors of the market.

4. Local investors prefer to operate via local traders in order to get to know them personally, for ongoing contact, and for the possibility of controlling day-after-day operations.

These four reasons explain the existence of the regional financial centres in Russia: St. Petersburg, Rostov, N. Novgorod, Samara, Yekaterinburg, Novosibirsk, and Vladivostok. Their recent history of becoming Russian provincial financial centres confirms the analysis of the characteristics of a financial centre presented in p. 18 of the thesis.

We will concentrate our research on the Novosibirsk financial centre, examining four periods in the development of the Siberian regional money market (the market concentrated in the Novosibirsk financial centre) which characterise four periods in the development of the national money market as well. These four periods are divided by three financial crises, two of them are the crises of the Russian financial market - of August 1995 and August 1998, and one is the crisis of international financial markets - of November-December 1997.

The sources of information and data used in this chapter are presented in chapter 1 (pp. 29-31, 33-37). In this chapter we will discuss the dynamics of the volume of operations in the main sectors of the Russian money market;

the development of the main sectors of the Siberian money market in more detail; differences between the structures of the regional money market and the "ideal type" of money market; and the causes, evolution and consequences of the crisis of liquidity of August 1995.

4.2 The Russian Money Market and Its Context

Figs. 19 and 20 portray the comparative dynamics of the monthly volumes of operation in the main sectors of the national money market. Exact figures are given in Appendix 2 (pp. 245-246).

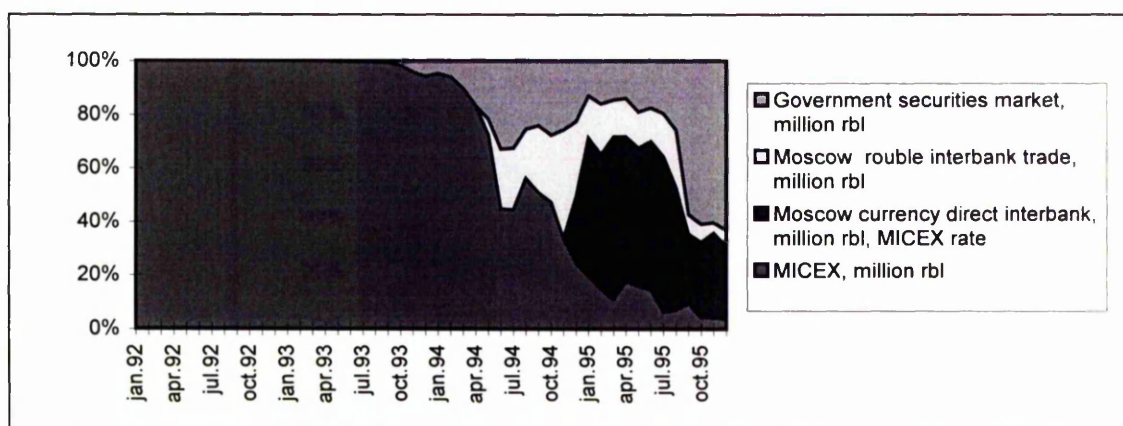


Fig. 19 Sectors of the national money market, monthly volumes of operation, percentage presentation. Sources of information: Moscow Interbank Currency Exchange (MICEX), Interfax Information Agency.

Percentage presentation gives the volume of operation share for each sector of the market. Percentage presentation allows us to see more clearly the comparative volumes of operation in each sector of the market.

Absolute value presentation allows us to see the dynamic of monthly volumes of operation for each sector of the

market, but it is hard to evaluate comparative volumes from this picture. As the figures show, from the beginning of 1992 until the beginning of 1994 the interbank spot currency market was the only sector of the Russian short-term financial market, and until the autumn of 1995 it dominated the other sectors of the Russian short-term financial market. Due to the lack of credibility towards the government and to the high rate of inflation, dollar became the most popular medium for short-term investment by the commercial banks. The US dollar's turnover in 1992-1995 constituted the major share of the currency trade in Russia (97-99%). This is why we ignore all other foreign currencies in this study.

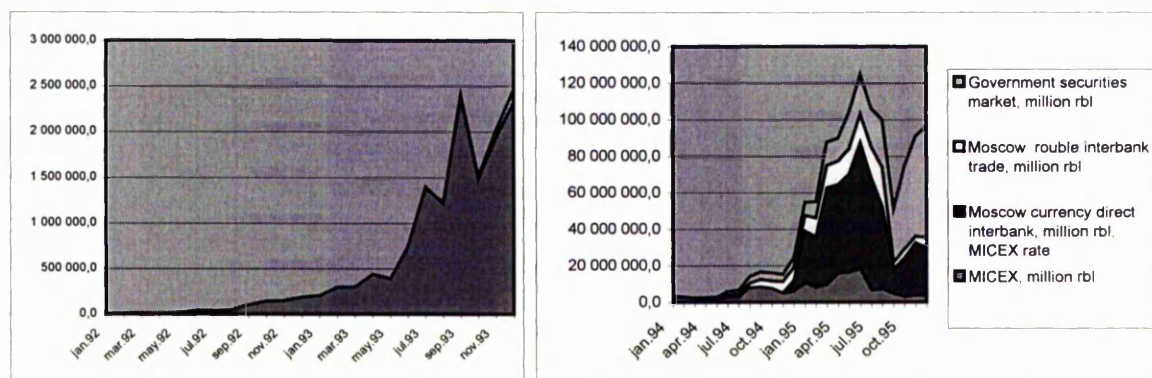


Fig. 20 Sectors of the national money market, monthly volumes of operation, absolute value presentation. The graph is split into two parts with different scales. Sources of information: MICEX, Interfax Information Agency.

Because the interbank currency market played the distinct role in setting up of the Russian financial system, and was an important sphere of the banks' short-term investment during 1992-1994, it is considered in this study as one of

the money market sectors. We use the word "investment" for the sphere of conversion to stress the fact that in the periods, when growth of exchange rate exceeds the nominal rate of interest, conversion can be profitable for the banks as participants in the interbank currency market.

Table 2. The major economic indicators for the Russian economy, 1992-1995

Indicator	1992	1993	1994	1995
GDP in current prices (milliard roubles) at the end of the period	19.0	171.5	610.7	1585.0
Real GDP (1995 = 100%) at the end of the period	126.0	117.0	104.3	100.0
Unemployment (%) (average from the monthly data)	no data	no data	7.0	8.3
Deflator GDP (December 1995 = 100)	no data	no data	44.8	100
Re-financing rate of the Bank of Russia (average from the data at the end of each month)	57	134	180	185
Direct interbank "overnight" rate, annual rate (average for the period)	no data	no data	no data	190.4
Average exchange rate (MICEX) (rouble/dollar) (average for the period)	0.222	0.933	2.205	4.562

Sources of data: Goskomstat of the Russian Federation, the Bank of Russia, and MICEX.

The main tendencies of the development and relative importance of the major sectors of the regional money market are much the same, as they are shown for the national money

market in figs. 19 and 20. The similarity exists because the two markets of Moscow and Siberia are connected through regional sectors of the national market and through institutions operating in the both markets.

The major economic indicators for the Russian economy in 1992-1995 are presented in table 2.

4.3 The Siberian Regional Money Market: 1992-1995

The main elements of the Russian and Siberian money markets at the end of 1992 and of the Russian money market in summer 1995 are shown in Fig. 21 and Fig. 22. The structure of the Siberian money market in summer 1995 is shown in Fig.28.

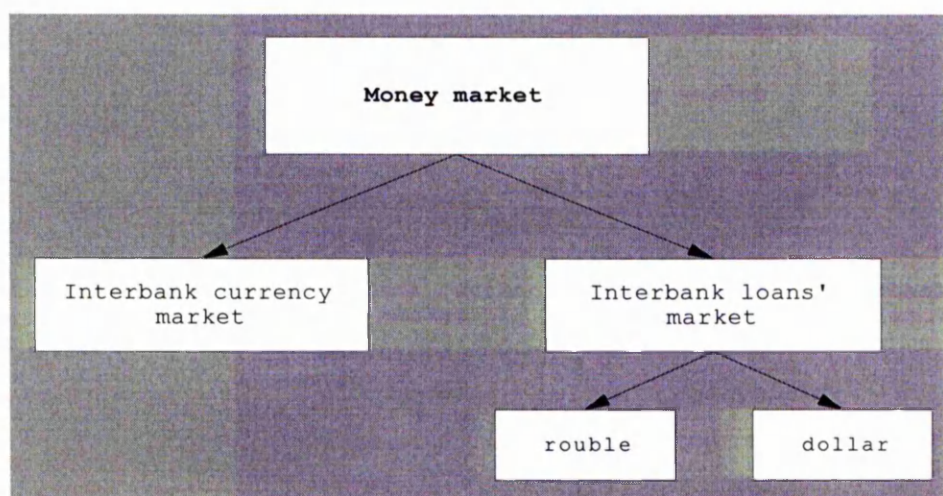


Fig. 21 Structure of the Russian and Siberian money markets at the end of 1992

The interbank currency market is a market for interbank dollar/rouble trade. The interbank loans market is a market for unsecured interbank trade in rouble and dollar resources.

The government securities market, which appeared in the region in October 1995, is a market in short-term government securities among commercial banks and financial companies.

The transformation of the currency market from a group of money market sectors into elements of the short-term market is explained on pp. 110-112. The main elements of the national money market are discussed, for example, in Rukin (1995).

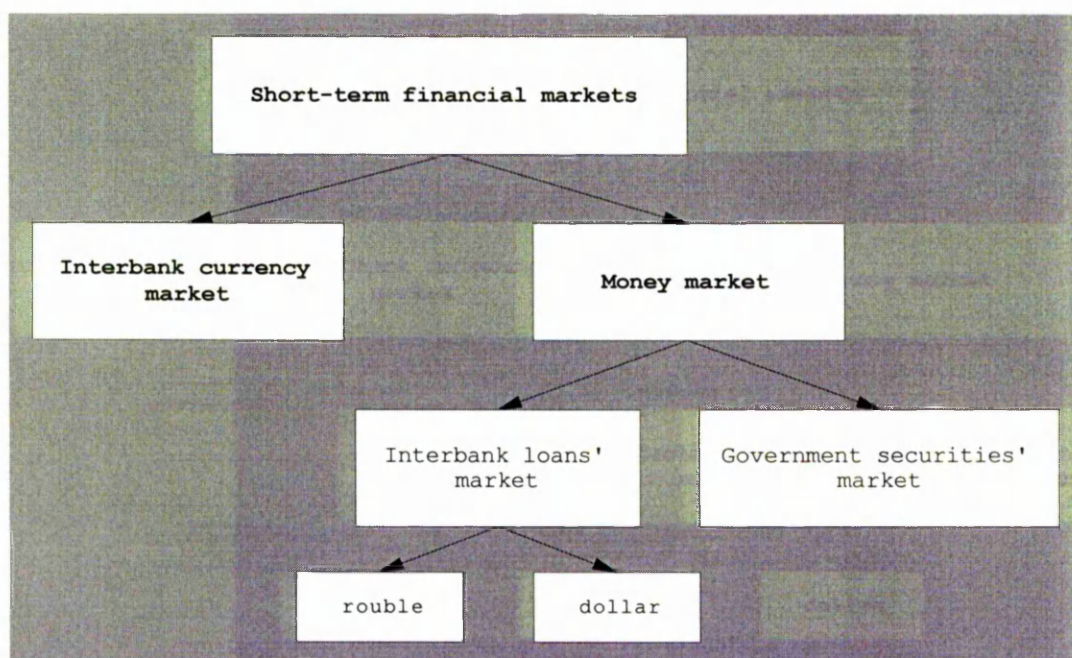


Fig. 22 Structure of the Russian money market in summer 1995

A short history of the national and Siberian regional money markets for the period 1992 - August 1995 is as follows:

January 1992 - Moscow Interbank Currency Exchange (MICEX) starts operations.

November 1992 - Siberian Interbank Currency Exchange (SICEX) starts operations.

May 1993 - start of the government securities market at the

MICEX.

October 11th, 1994 - "Black Tuesday" in the currency market - a sharp devaluation of the rouble in the internal Russian currency market caused by speculation by a group of big Moscow banks at the MICEX.

July 1995 - introduction of a "currency corridor", i.e. setting up the limits for changes in the dollar/rouble exchange rate, which was introduced to restrict short- and middle-term fluctuations of the dollar's value in Russia.

August 24th, 1995 - collapse of the Moscow interbank loans market.

August 26th, 1995 - collapse of the Siberian interbank loans market.

4.3.1 The Siberian Interbank Currency Exchange

The currency sector of the national money market was organised by the Bank of Russia (BoR) by setting up a number of currency exchanges in those large Russian cities having a high concentration of banks. These cities were Moscow, St. Petersburg, Novosibirsk, Yekaterinburg, Vladivostok, Samara, Rostov, and N. Novgorod.

In Novosibirsk, the Siberian Interbank Currency Exchange (SICEX) began operations in November 1992. In early 1993, 37 commercial banks from 18 Siberian cities were members of the currency section of the Exchange (the 38th was a special member - the BoR). By the end of 1995 their number has risen to seventy. The volume of operations in US dollars during 1992-1995 is presented in Fig. 23.

Trading sessions at the SICEX were organised as "open outcry" auctions, in which orders are given by voice or in written form by the banks' participants in person or via SICEX's personnel. The auction form was at that time the most convenient for the BoR, enabling it to intervene in the regional currency exchanges with the aim of regulating the exchange rate of the rouble. The BoR simply filled the gap between demand and supply at the required level of the exchange rate. The auctions supposed "one-way movement" of the exchange rate - the rate could either increase or decline inside one trading session. The possibility of changing the rate in different directions would mean that potentially a session would become endless.

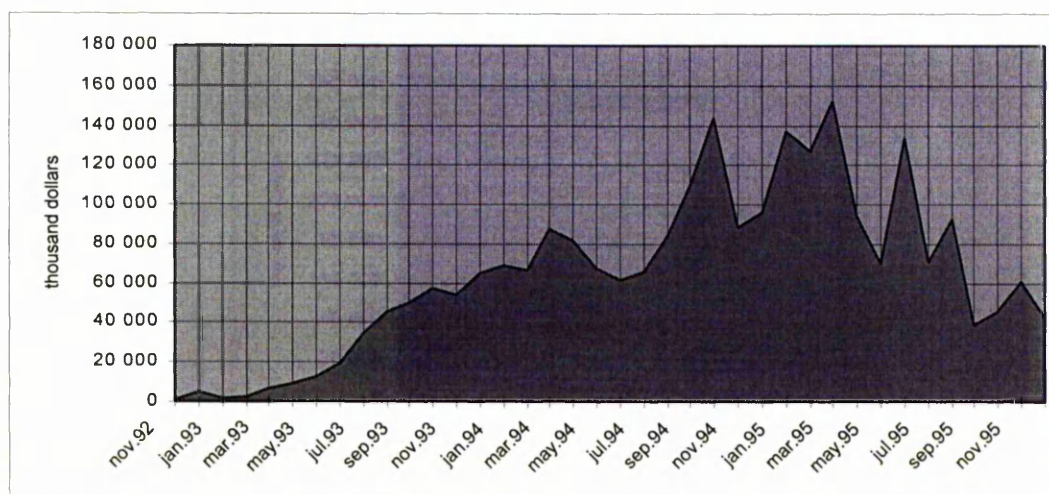


Fig. 23 Monthly volume of operations in US dollars at SICEX.
Source of information: SICEX.

Commercial banks were the only participants in the market. Spot currency was a trading instrument. The fifth working day (T+5) after a trading session was a settlement day (T+3 at MICEX). Trading sessions took place daily and

lasted no longer than an hour. There were no official market makers in this sector other than the BoR, which undertook a market maker's functions via its regional branch, in the course of its daily regulation of the exchange rate.

It is apparent from the Figs. 19, 20 and 23, that activity reached a peak in August 1995, after which the volume of organised currency operations started to decline. There were four reasons for this tendency, which became even more obvious during 1996-1997:

1. From mid-1994 onwards the "over-the counter" (OTC) market (direct interbank trade) in currency gradually began to expand and by early 1995 it had assumed the role of a major sector in interbank currency trade. Such a shift from an organised market to a direct interbank currency market occurred for the following reasons:

(i) The infrastructure of direct interbank currency trade became more developed. Banks' specialisation in types of trade became more definite: some were usually sellers, while others were usually buyers of currency. More banks began to participate in trade. They worked out mutually satisfactory techniques for dealing with one another directly.

(ii) With an increasing number of participants, the direct market became more liquid and more suitable for the requirements of banks in the conversion of large amounts.

(iii) The OTC-market was cheaper. In addition, settlements could be effected more quickly in this sector of

the currency market.

(iv) It was not very convenient for banks to have only one hour a day for currency operations. In Novosibirsk after the announcement of the MICEX rate at 3 p.m., banks usually started a second OTC and over-the-telephone "trading session".

2. "Black Tuesday" (October 11th, 1994) made this sector of the market less predictable and more risky for investing short-term money (Fig. 24).

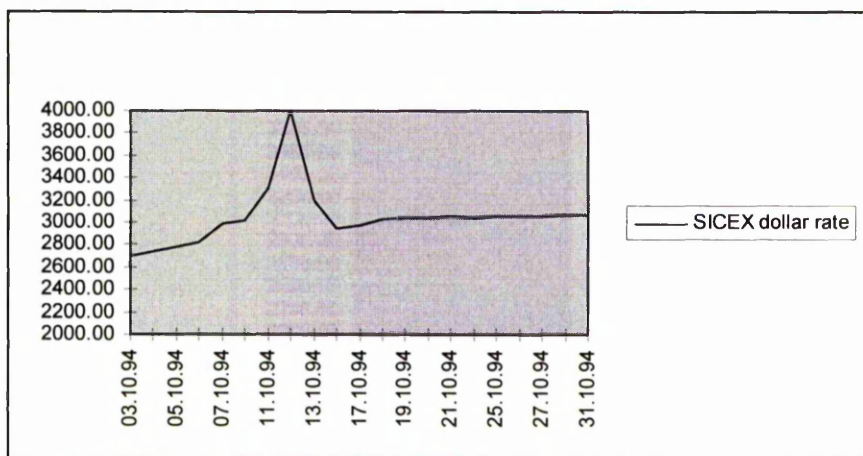


Fig. 24 "Black Tuesday" at SICEX. Source of information: SICEX.

3. The introduction of the "currency corridor" in July 1995 made this sector of the market unattractive for investment and speculation. From that time on, the organised currency market primarily served the needs of international trade. We can even say that from that time it ceased to be a sector of the money market because it was no longer suitable for short-term investment.

4. In June 1995 the Bank of Russia abolished the requirement that banks should sell 50% of the export profit

of their clients in one of the currency exchanges.

The organised currency market (trade through the currency exchanges) came into play when participating banks needed additional guarantees in settlements, as were usually required during periods of unstable exchange rates. Transactions in the organised market were also more preferable and profitable when a gap existed between the exchange rates in the two sectors and an inter-sector arbitrage could bring a gain. The organised market was also employed when there was a necessity to convert a large amount of currency; it is more expensive to convert in parts rather than a whole sum. In such cases the exchanges could also guarantee a transaction at a "reasonable" price, due to the participation of the BoR in the role of a market maker.

During 1992-1994 the rate of growth of the MICEX dollar exchange rate was a major indicator of Russian money market activity.

4.3.2 Interbank Loans Market

In the second half of 1994 and in the first half of 1995 the main sector of the Russian and Siberian money markets was the interbank loans market. It consisted of two parts - the currency interbank loans market and the rouble interbank loans market. The interbank loans market was an independent sector for short-term loans or served as a subsidiary sector for the main two - the interbank currency market and the government securities market - often being the buffer between

them (Rukin, 1995). Consider the examples of two typical situations, where the interbank loans market served as such a buffer.

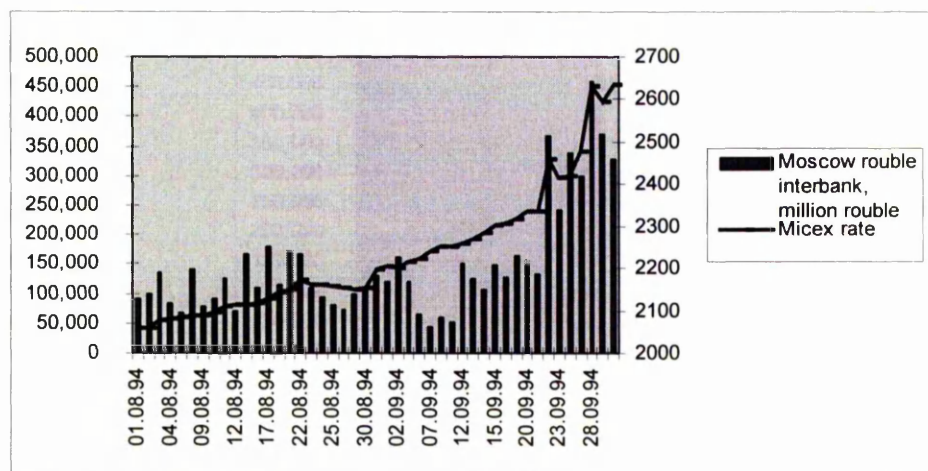


Fig. 25 Relative dynamics of the Moscow interbank loans daily volume, million rouble (left scale); MICEX rate, daily, roubles per dollar (right scale). Sources of data: Interfax Information Agency, MICEX.

Example 1. The cases of rise of the exchange rate and, therefore, of rising profitability of short-term conversions, led usually to the expansion of the interbank loans market. The banks borrowed short-term money to act in the currency market. In Fig. 25 this case is illustrated for period of August-September 1994. The periods of the exchange rate instability were accompanied by a rise in the volume of operations in the interbank loans market. Even small changes in the exchange rate in the first half of August provoked "jumps" in the volume of interbank loans. Big movements of the both indicators were observed in the third decade of September. The periods of stability of the exchange rate (23-28 August, 4-9 September, and 14-20 September) were

characterised by a relatively low level of operations in the interbank loans market.

Example 2. The interest rates for the interbank loans market usually increased on Tuesdays and Wednesdays, when the banks' money was frozen out of active circulation to participate in the primary auctions of new issues of the government securities. During that time the banks actively borrowed resources from the interbank loans market at even a higher interest rate. In Fig. 26, Tuesdays and Wednesdays land on 18-19, and 25-26 October; 1-2, 8-9, 15-16, 22-23, and 29-30 November; and 6-7, 13-14, 20-21, and 27-28 December. The week of 31 October - 4 November was before the national holiday.

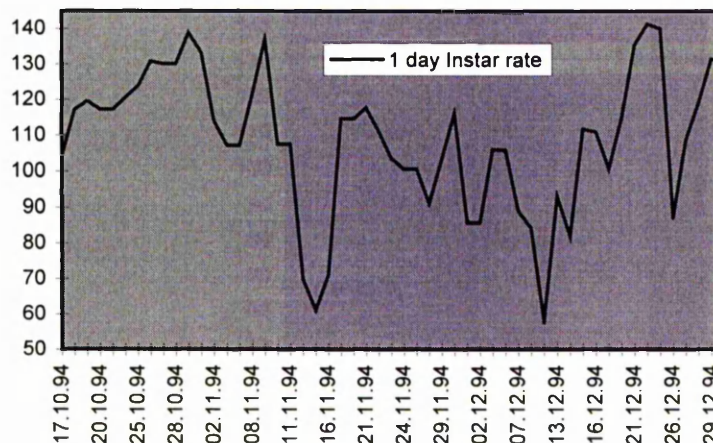


Fig. 26 The INSTAR³ annual interest rates for 1-day loans in the Moscow interbank rouble loans market for the last quarter of 1994. Source of data: Prime Information Agency.

³ The INSTAR interest rates are calculated by the PRIME information agency on a base of data on real deals, gathered from 25 biggest Moscow participants in the interbank loans market.

Under a high rate of inflation and without intermediary institutions serving as market makers, the interbank loans market was very short-term and vulnerable. The main traded instruments were from 1-3 days to up to a week loans, rarely - up to a month loans.

The major participants were commercial banks. Transactions were agreed over-the-telephone. All the required documents were legalised afterwards, when corresponding settlements were already under way. The BoR did not participate. The re-financing rate of the BoR was only a formal indicator, which followed the market rate (Fig. 27). It was the real indicator only for the international export-import contracts or as a rate of special loans of the BoR to commercial banks for crediting seasonal needs of agriculture and "northern delivery" (delivery of food, fuel, machines, instruments, etc., to the northern territories of Russia in summer time).

There was no real indicator of the money market activity in 1994 - first half of 1995. There were several indicators, calculated by the Moscow information agencies: INSTAR-indicators for different terms (Prime Information Agency), MIBOR-MIBID-MIACR indicators⁴ for different terms (Prime Information Agency in co-operation with the Bank of Russia),

⁴ MIBID - average-weighted bid-rates of 100 Moscow commercial banks; MIBOR - average-weighted offer rates of 100 Moscow commercial banks; MIACR - average-weighted deal-rates of 100 Moscow commercial banks. These 100 banks are the active participants in the Moscow interbank loans market.

AFI-indicators⁵ for different terms (the Agency of Financial Information).

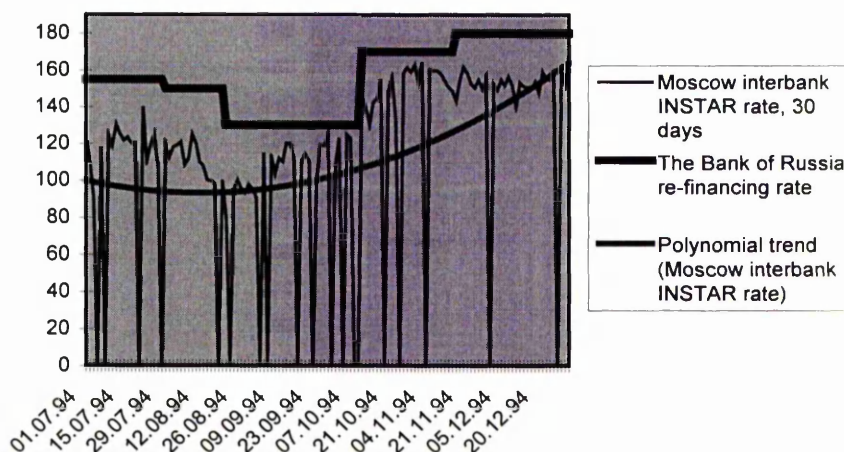


Fig. 27 Comparison of the 30-days INSTAR rate and the Bank of Russia's re-financing rate for the second half of 1994. Sources of data: Prime Information Agency, the Bank of Russia.

There is a dearth of published materials on the operations in the Siberian interbank loans market in 1994-1995. To get some information on the market we undertook a round of interviews with the representatives of four commercial banks from Novosibirsk. This round was devoted to the August crisis of liquidity and its details and the characteristics of the banks participated in interviews are presented on pp. 35-36 of Chapter 1.

The interviews revealed that the interbank loans market in Novosibirsk had consisted of the two parts: one was the market for short-term loans (up to a week); another was the

⁵ AFI-rates are the average-weighted bid, offer and real rates for a group of the major participants in the Moscow interbank loans market.

market for medium-term loans (from 2 weeks to a month). The bankers recognised that the word "medium" for a two-week loan would sound strangely for those familiar with the developed financial markets. Although, they stressed that in 1994-95 it was actually a long period for the Russian money market, considering the high expectations of inflation, which was climbing at an average of 40% per month at the end of 1994⁶, and the high risk of insolvency within the two-week time frame. The market for short-term loans (short market) was local. The settlement system did not allow for transactions with the Moscow banks; they just could not be completed in 1-3 days. The market for medium-term loans existed mostly as a market between the big Moscow ex-Soviet banks (Promstroybank, Agroprombank, Sberbank) and their local branches.

In the words of one banker, in the first half of 1995 one could observe the incredible development of the market in short-term money in Novosibirsk. It was the most delicate and interesting market in the city. The liquidity problem did not exist. Security was absent. It was a true "over-the-telephone" market.

The Novosibirsk interbank loans market had not been clearly segmented by the summer 1995. It was open for big and small banks, although already in April, mutual limits on the amount of operations were introduced. Another banker

⁶ The source of data is Commercant, 18th January of 1995.

interviewed pointed out the important feature of the Novosibirsk market in the spring 1995. He said, that two levels of the market did exist: "crony" - between small banks and between small and big banks, when personal relationships were extremely important for getting an unsecured loan; and "civilised" - where only big banks operated and personal relationship was not that important.

Notwithstanding the differences, which existed between the interbank loans markets, concentrated in Moscow and in Novosibirsk, in the second half of 1994 the interbank loans market was the main sector of the money market and the main sphere for banking liquidity management, especially in Novosibirsk.

4.3.3 The Government Securities Market

In May 1993 the government securities market was started at the MICEX and by mid-1995 it was bigger by volume than the organised currency market and the interbank rouble loans market. By the end of 1995 it had exceeded all the other three sectors together (Figs. 19, 20).

This market is based on the MICEX facilities and has a nationally distributed infrastructure - its regional gateways are working in all 7 regional currency exchanges (Government Short-Term Bonds, 1994: p.49). Therefore, this market has regional parts, which mainly serve regional participants in the market.

Two main participants in the market are the Ministry of

Finance (as issuer) and the Bank of Russia (the Ministry of Finance's general agent in the market) (Government Short-Term Bonds, 1994: p. 29). They use the market for:

- borrowing temporarily free resources from commercial banks, investment and financial companies, firms and individuals for the non-inflationary coverage of a deficit of the Federal budget;
- regulation of money in circulation; and
- supporting the liquidity of banks and other financial institutions.

From May 1993 to August 1995 a primary distribution of securities took place weekly on Wednesdays and secondary trade was undertaken daily (from June 1994) for two hours. All trading sessions were organised in the form of screen trade.

Only recognised members of the government securities section of the MICEX (those banks and financial institutions considered "recognised dealers") could trade in the MICEX united electronic trading and settlement system for government securities. Other institutional or individual investors could trade through the recognised members. Individuals were allowed to take part in the market's operations in October 1993. In February 1994 non-residents were admitted into the market. The BoR kept its role of a market maker.

There were two traded instruments in this sector of the

money market: government short-term bills (bills or GKO's) and federal loan bonds with a variable coupon (bonds or OFZs). The former was a discount named short-term security, issued for either 3 or 6 months. The latter was a coupon named medium-term security, issued for 1-2 years with a coupon paid quarterly.

Already in 1994, and especially close to 1995, this sector of the money market was developing very fast (Figs.19, 20). There were several reasons for such an impressive development of a relatively new financial sector in the Russian economy:

(i) Reliability. From the very start there was not a single instance of even a short delay in cashing the securities. Attaching great importance to the market as a non-inflationary source for financing the federal budget deficit, the central monetary authorities carefully monitored the market's stability;

(ii) Rates of return. Its average-weighted profitability in the first half of 1995 varied from 225% annual rate in January to 50% in June. For comparison, the INSTAR 30-day rate for the same period varied from 150-160% in January to 55-65% in June⁷. This big difference in rates of return stimulated speculation in the market;

(iii) A growing volume of operations in the market and, hence, a rising level of liquidity;

⁷ Sources of data are MICEX and Interfax Information Agency.

All the above are characteristics of first class securities. In 1995, and again in 1996, government securities made up a considerable share of the banks' liquid portfolios - sometimes up to 30% [Commersant, 1995, № 37, p. 16-20].

(iv) A diminishing inflation rate and the existing average level of interest rates made the government securities sector of the market even more attractive for investors; and

(v) The relative stability in the dynamics of volume and prices in the period around the "Black Tuesday" in October 1994.

In Novosibirsk this market was not accessible until October 1995. Siberian commercial banks and other potential regional investors could keep money in reliable and highly liquid government securities only via Moscow dealers. It was a very expensive way to invest money, because money had to be "frozen" for about a week, to be transferred from Novosibirsk to Moscow and back. Only those regional branches of ex-Soviet banks in Moscow with a developed system for inter-regional transactions could profit from investing in prime-rate securities. Other regional banks and financial companies continued to balance their liquidity mostly in the interbank loans market. For newly established regional banks without stable clientele, operations in the interbank loans market often served not only as a way of managing liquidity, but also as a mean of accumulating and accommodating money. That

meant that regional banks did not have in their portfolio highly reliable financial instruments and could face severe problems of liquidity. Such risky market practice was one of the main causes of the August crisis of liquidity of 1995 (part 4.4 of this chapter).

4.3.4 The Regional Market in Comparison with the "Ideal Type"

The structure of the regional money market as of mid-1995 is presented in Fig. 28.

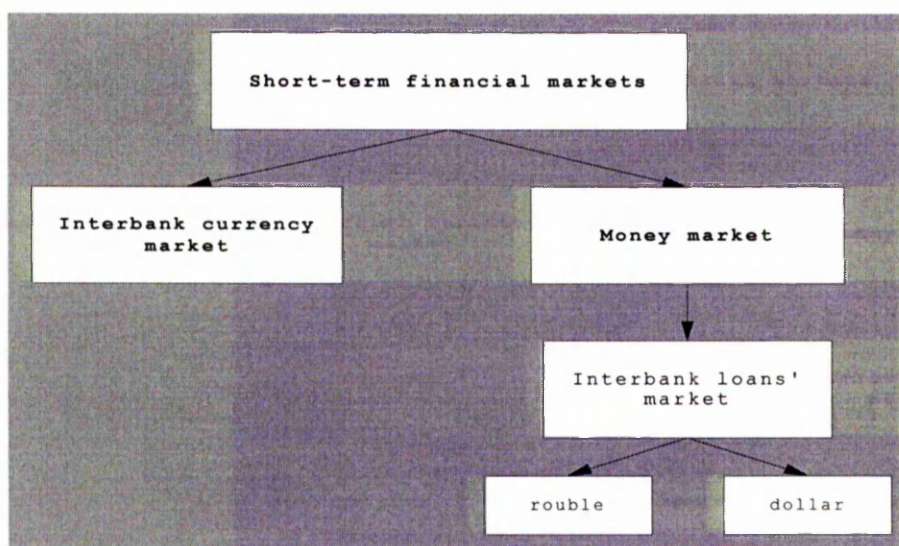


Fig. 28 The Siberian regional short-term financial markets in summer 1995

A comparison of this structure with the "ideal type" of money market (chapter 3) reveals several important differences:

1. The unsecured sector of the money market in Novosibirsk - the interbank loans market - did not suppose posing mutual limits on volume of operations. This is just one

indication of the fact that it was a relatively "young" market, which had not yet evolved rules and traditions of trade, nor had so far to overcome crises.

2. The secured sector of the money market did not exist in the region at all. In addition, appropriate security for short loans and reliable, liquid instruments for trading were absent as well. The organised currency market might have appeared to be such a sector (e.g. the presence of the BoR in the position of a market maker, and security for transactions in the form of pre-payments). However, with introduction of the "currency corridor" and the dollar's declining attractiveness for speculation, and also with a diminishing inflation rate, interbank currency operations gradually evolved into more of a normal process of conversion.

3. The interbank loan is not the best instrument for money market operations, due to its higher market and default risks, compared with, say, government securities or bonds of well-known banks and firms. In well-developed money markets, loans are never the only instrument of trade. Large diversity in the instruments in circulation is required for the market's stability. If there is dependence upon only one instrument, that instrument can push the whole market into a crisis if it gets into trouble.

4. To be stable the market needs a permanent supply of free money resources as well as a permanent supply of

instruments in which to invest these resources. On the money supply side, involvement of such institutions as pension funds and insurance companies is important. By mid-1995 there were no such participants in the regional money market.

5. During that period there were no intermediary institutions in the main sector of the regional market - the interbank loans market. Sibirsky Torgovy Bank (the Siberian Trade Bank) was the centre of the market's operations. Yet, it was always an interested party in every deal (it participated not only on behalf of its clients' orders, but also on behalf of its own interests and money). Therefore, it was not in the immediate interests of the bank to make available the information it had distilled about the market. On the contrary, it was more in its immediate interests to conceal this information.

6. There was a lack of lender of last resort facilities in the market. Such an underdeveloped market structure with the absence of two important institutional levels - a central bank as a lender of last resort, and specialised intermediary institutions between the central bank and the rest of the market - was the most serious discrepancy between the regional money market and the "ideal type" of a well-developed market. It characterised the Moscow money market as well. Most of the changes occurring after the crisis of liquidity of August 1995 were implemented to fill this gap in the market structure.

7. The absence of secured loans using money market instruments as security. A possibility of such loans supposes the existence of near-money securities (government bills and short bonds, eligible bank bills and CDs, reliable corporate bonds) and such forms of trade as REPOs and reverse REPOs, or simple secured loans. In other words, the situation in the regional money market in 1992-1995 can be described as an absence of alternative sectors for the regional financial institutions to act in.
8. The absence of a recognised indicator of money value in the regional money market was an inevitable result of the absence of an indicator for the "level of support" from the BoR or from a group of big commercial banks. There was no possibility of borrowing in cases of urgency and, therefore, no marginal price, which could serve as a reference point for the market.

4.4 The Crisis of Liquidity, August 1995

Serious instability in the market had appeared firstly in the Moscow money market and it then extended to the regional markets.

This part of the chapter uses the data of the Moscow money market (taken from the Interfax information agency's issues and from the MICEX databases) and also the materials from interviews taken by the author in September 1995 (details of the interviews are on pp. 35-36 of the thesis). It is also based on intensive discussion of the context,

causes and consequences of the crisis in the literature (Afanasief, Kuznetzov and Isaev, 1995; Borish, Millard and Michel, 1995; Delyagin, 1995; Glaessner and Ignacio, 1995).

4.4.1 The Evolution of the Crisis

The August crisis looked at a first glance like normal temporary difficulties in meeting liabilities in the interbank loans market with several Moscow banks. It began on 21-22 August 1995. Immediately prior to that date, on August 17, about 400 commercial banks participated in everyday interbank operations in Moscow (Interfax electronic issue, 28 August 1995). However, already by 24th August, forty banks – and by 26th August, every second Moscow bank – had not met their liabilities in the market (Interfax, the same issue). From the point of view of market indicators, the crisis progressed according to the following spiral: outflow of money resources – rise in interest rates – worsening of liquidity positions of some banks – further outflow of money resources. The market collapsed on 24th August and subsequently started to recover after 4th September (Fig.29). Only much later did it reach the volume that existed before the crisis (see chapter 5).

Price indicators also portrayed the classic picture of a crisis (Fig. 30), because large spreads between bid-prices and offer-prices indicated a low level of liquidity in the market. This graph clearly illustrates why it was a crisis of liquidity: it was impossible to borrow money for more than a

day, and it was impossible to borrow money at a "normal" interest rate. Therefore, it was a shock in managing the current liquidity positions of banks.

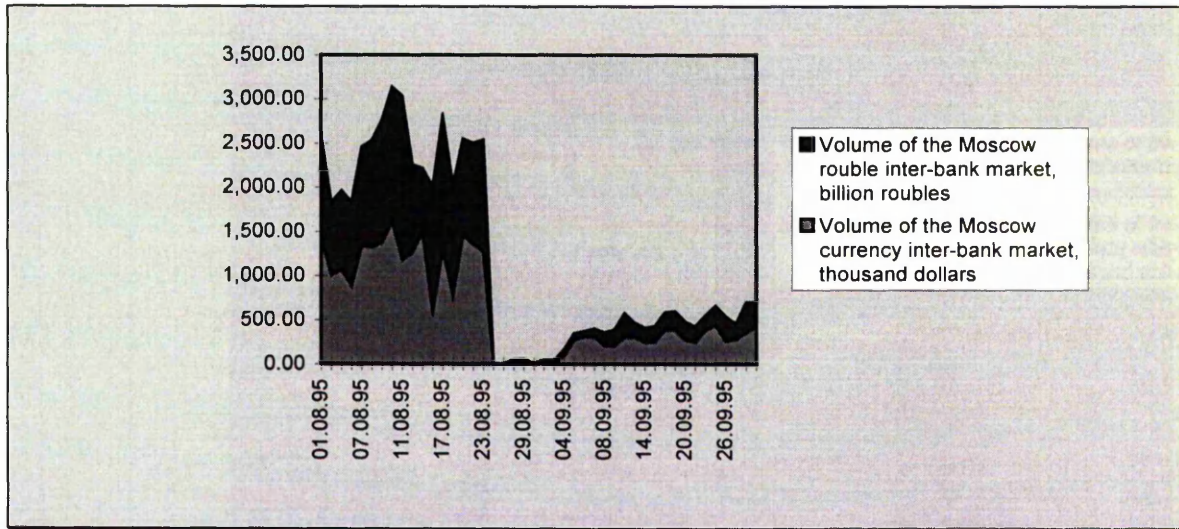


Fig. 29 The August crisis of liquidity in daily volume of operations. Sources of data: Interfax information agency, MICEX.

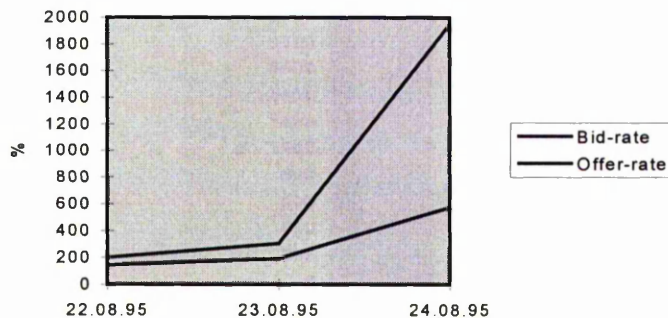


Fig. 30 The August crisis of liquidity in prices, the AFI-rates for 1-day loans. Sources of data: Interfax information agency.

In Novosibirsk the crisis started 2-3 days after Moscow and affected first the biggest regional clearing bank, Sibirsky Torgovy Bank (the Siberian Trade Bank), and via it, all other commercial banks in the region. For many regional

banks the crisis of liquidity was deepened by the relative shallowness of their client base and by the poorer ability for diversification through trading in different sectors of the financial market (in comparison with Moscow banks).

Many regional banks were faced with a severe problem of sheer survival and with a necessity to look for an exclusive source of financial resources (serving local budgets, big enterprises, etc. - to increase the share of stable and big deposits), or for merger prospects and enlargement. As one of the bankers interviewed concluded, the regional money market was nearly lost, all big regional banks were experiencing difficulties (the interview, 3 September 1995). In the regional interbank rouble loans market, only a few transactions a week were registered in September, and currency interbank loans were not noticeable.

4.4.2 Causes of the Crisis

In our view, the causes of the crisis can be divided into three: macroeconomic, microeconomic and management.

Macroeconomic causes of the crisis. The second half of 1994, and especially the first half of 1995, were the times of intensive financial stabilisation and of restrictive monetary policy (Kirichenko and Privalov, 1995: pp.12-17). Such a policy was intended to diminish the banks' ability to profit from the "unnatural" (inflationary) decrease in the value of money. The restrictive monetary policy consisted of the following elements:

(a) Monetary authorities continued the policy of non-inflationary financing of the federal budget and of decreasing budget spending.

(b) Direct measures were undertaken to reduce the money in circulation. Fig. 31 displays how the re-financing rate of the BoR was rising during this period. In addition, new reserve requirements for the banks were introduced in 1995, including a requirement for currency deposits and a higher rate for demand deposits (Table 3). They were decreased after three months, but still remained very high.

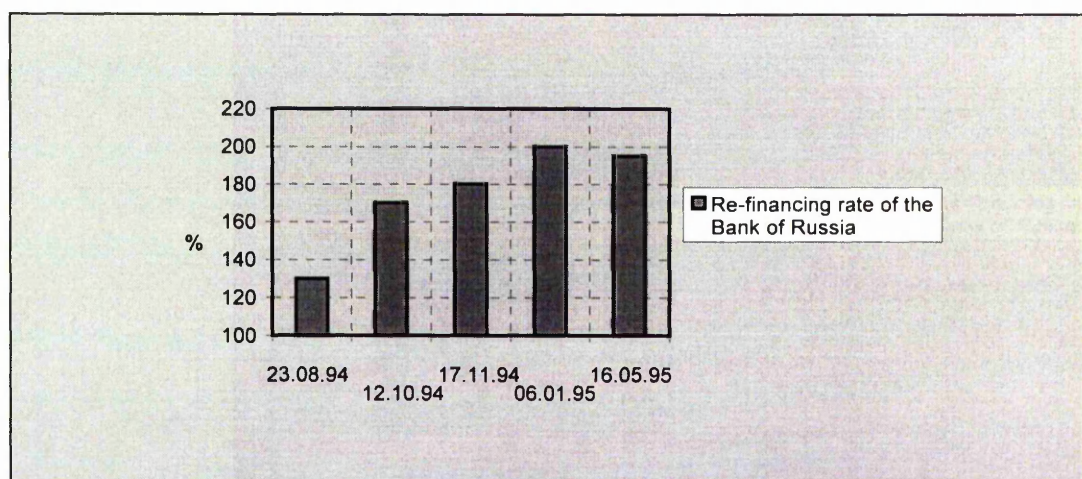


Fig. 31 The re-financing rate of the BoR in the second half of 1994 - the first half of 1995. Source of data: the Bank of Russia.

(c) Just before the crisis, the "currency corridor" was introduced. Some clients-exporters became insolvent. The "corridor" also deprived banks of the possibility of obtaining income from short-term fluctuations in the exchange rate. Additional resources were pushed into the interbank loans market.

The more rigorous monetary policy was not accompanied by

the presence of the BoR in the position of lender of last resort in the money market. In the words of Alexander Potemkin, vice-director of the BoR at that time, which were an immediate reaction to the crisis, "as an agent of the state the Bank of Russia must not conduct fiscal functions in the money market but support its liquidity" (Expert, 1995, №7: p. 21), meaning lender of last resort functions in the market.

Table 3. Reserve requirements of the Bank of Russia

	From 1\03\94	From 1\02\95	from 1\05\95
Demand deposits and time deposits up to 30 days	20%	22%	20%
Time deposits between 30 and 90 days	15%	15%	14%
Time deposits for more then 90 days	15%	10%	10%
Deposits in foreign currency		2% (newly introduced)	1.5%

Source of data: the Bank of Russia

Microeconomic causes of the crisis. The underdeveloped structure of the regional money market was named by the Siberian bankers interviewed as a serious reason for the spread of the crisis into the region (the interviews, 3 and 10 September 1995). The regional market consisted at that time only of the interbank loans market and the interbank currency market. There was no sector of the market for secured transactions. Only branches of the Moscow banks could trade in government securities via Moscow trading and settlement facilities. Such a structure of the regional

market did not allow the regional banks to diversify their operations and was highly risky. As one of the bankers interviewed commented, in one bank all the money was invested in government securities, in another bank - in currency, in a third bank - in interbank loans (the interview, 4 September 1995). There was no normal market structure.

Banks' management as a cause of the crisis. Periods of high rates of inflation usually mean a "good life" for banks. Banking was one of the most profitable and prestigious businesses in Russia in 1994-1995. As one of the bankers interviewed commented, banks have got used to living well (the interview, 10 September 1995). Their staff was usually too big and new decisions about business were not backed by research. He added, that a simple "tug-of-war" for clients usually took place and from this point of view the prospects for the regional banks looked very poor.

The spring and summer of 1995 were a critical moment for banks. They had to get used to living under different circumstances, with a low rate of inflation and with "normal" income in a very competitive environment. Many banks were not ready for the new situation. The bankers interviewed spoke of the low quality of the top management of the banks, which was vividly evident when a serious transformation of business was needed. They stressed the inability of top managers to evaluate the new balance between risk and profitability in the market defined by the August crisis. A very ordinary occurrence of that period was borrowing short in the money

market and lending long as an investment in industry, trying to replace money market operations as the main source of income with long strategic partnership with industrial enterprises. It was a fatal strategy for those banks with no spare resources; borrowed money became tighter for a longer time, with only a distant prospect for profit. "The market for short-money was used by most Russian banks not as a reserve to support their current liquidity, but as a stable instrument for extracting profit and as a cheap source to cover expenditures. Covering long-term investment with short-term interbank loans sooner or later had to turn into destabilisation" (Commersant, September 1995, № 32: p. 11).

The banks' management problems in the context of the transition of the ex-socialist economies to the market type economy were stressed by the World Bank's research: "...it is important to force the restructuring banks to establish new management teams. This indicates that the problems in the banks are, in part at least, the fault of the existing managers. This fact alone will make it difficult for solutions to be identified and implemented if the senior personalities are not changed" (Roe, 1992: p. 27).

4.4.3 Consequences of the Crisis

Observers recorded several major consequences of the crisis. One of them was a transition to a firmly segmented market. Only top banks with good reputation traded with each other on an unsecured basis. Other banks had to secure their

loans in most cases with first-class government securities. For unsecured loans, the banks introduced mutual limits on the volume of operations. As one of the bankers interviewed commented, since August only small groups of banks have operated in each city or region (the interview, 3 September 1995). Some banks from those groups could obtain unsecured loans, others - in restricted volume, the rest - upon the condition of supplying all the detailed information concerning the loan.

Another consequence of the crisis was the establishment of a new standard of interdependence between the two main sectors of the market, the interbank loans market and the government securities market, due to introduction of secured loans in the former. It signified that the value of money in the two sectors was comparable and that the interbank loans market had taken on a less speculative character.

The third consequence was the pulling out of "superfluous" money from the interbank loans market and the consequent flow of money into the government securities market. Such a shift of money resources from one sector of the market into another forced the central monetary authorities to undertake additional measures to keep the government securities market stable.

The fourth consequence of the crisis was a tightening up of risk management in the banks. Banks started to work under new quality requirements for their banking business, dictated by the market. Simultaneously, supervision by the BoR became

stricter.

The most important consequences of the crisis were the lessons learned ("The August Lessons", 1995). They mostly applied to the role of the Central Bank in the market and were expressed in condensed form by the director of Mezhkombank (Moscow), Sergei Ovsyannikov (Ovsyannikov, 1995) as four measures which the Central Bank must implement. He argued that the Bank of Russia must:

1. temporarily abolish the Central Bank's accumulation of banks' reserves, thus support the banks' liquidity;
2. undertake the role of a lender of last resort and use accumulated reserves to fulfil it;
3. establish effective control over banks' operations and over banks' liquidity, in order to strengthen accountability for the accuracy of financial information and for satisfactory liquidity coefficients; and
4. introduce international principles of bank accounting.

The main theme of these proposals is a new role for the BoR in the market. Most changes in the market during the second half of 1995 through 1997 were a realisation of these proposals.

4.5 Conclusion

From 1992 to the first half of 1995 the regional money market was underdeveloped and consisted of only one sector - the interbank loans market. Together with the national money market it experienced a deep crisis of liquidity in August of

1995. A comparison of the regional money market's structure as of August 1995 with the "ideal type" structure has shown that the major differences between the two structures were (i) the absence of a secured sector for money market operations in the Siberian region; and (ii) the absence of a lender of last resort in the regional money market. As for the national money market, after August 1995 the government securities market took its place as a main sector of the market.

Chapter 5

Evolution of the Russian and Siberian Money Markets, September 1995 - 1997

5.1 Introduction

For the period September 1995 - 1997 all the factors preserving the existence of regional financial markets in Russia were in place (pp. 101-102). As for the Siberian money market, there was a period of closer integration of the regional and national money markets, which became possible with the setting up of the regional gateway to the national government securities market in October 1995. However, since this involved regional investors trading in federal securities via regional financial institutions, the Siberian market was the regional part of a national trading and settlement system. The markets for sub-federal and municipal bonds, however, operated separately from any national infrastructure. Nevertheless, some financial institutions from Moscow and St. Petersburg also took part in this trading.

Major economic indicators for the Russian economy in 1996-1997 are presented in table 4.

A short history of the Russian and Siberian money markets for the period September 1995 - 1997 is as follows:

October 1995 - profit from operations with government securities was exempted from taxation.

February 1996 - non-residents were allowed to participate in

operations with government securities in the national market.

March 1996 - start of secured ("lombard") loans of the Bank of Russia.

April 1996 - start of the market for sub-federal bonds at SICEX.

May 1996 - a new procedure to determine the official exchange rate was introduced. It was determined as an average value between the Bank of Russia's daily-declared bid and offer rates.

Table 4. Major economic indicators for the Russian economy in 1996-1997

Indicator	1996	1997	1998
GDP in current prices (milliard roubles) at the end of the period	2200.2	2586.4	2684.5
Real GDP (1995 = 100%) at the end of the period	96.5	97.3	92.8
Unemployment (%) (average from the monthly data)	9.6	10.8	11.5
Deflator GDP (December 1995 = 100)	128.9	148.9	190.15
Re-financing rate of the Bank of Russia (average from the data at the end of each month)	110	32	60
Direct interbank "overnight" rate, annual rate (average for the period)	47.6	21	50.6
Average exchange rate (MICEX) (rouble/dollar) (average for the period)	5.126	5.785	9.965

Sources of data: Goskomstat of the Russian Federation, the Bank of Russia, and MICEX.

October 1996 - introduction of the institution of primary dealers in the government securities market and REPO-deals between the BoR and primary dealers in this market.

September 1997 - introduction of SELT - the System of electronic trade - for electronic currency trade at MICEX. The system supposed an order-driven-market's form instead of an auction-form of trade¹.

Sources of information and data used in this chapter are presented in Chapter 1 (pp. 29-31, 33-37). In this chapter we will discuss the evolution of the Russian and Siberian money markets in 1995-1997. Estimation of a level of liquidity for the regional money market at the end of 1997 will be undertaken. Finally, a comparison of the regional market's structure at the end of 1997 with the "ideal type" will be undertaken.

5.2 Evolution of the Russian Money Market

From Fig. 32 showing the volume of transactions of the national money market from the second half of 1995 through 1997, it is obvious that the government securities market became a dominating sector of the market and replaced the interbank rouble market in its role as a major sector for interbank trade. The structure of the Russian money market at the end of 1997 was the same as for the middle of 1995 (see Fig. 22 on p. 107).

¹ In order-driven trading systems prices are being set for every deal and an average-weighted price serves as the resulting price for a trading session.

5.2.1 The Currency Market

The interbank currency market continued the tendencies which appeared in the spring of 1995. It mostly served international trade and did not play its previous role as a sector for the short-term investment of monetary resources by banks.

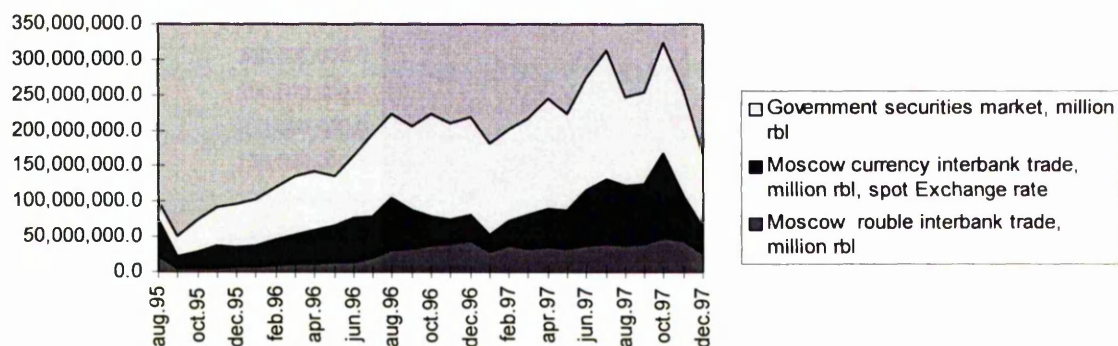


Fig. 32 Sectors of the national money market, monthly volumes of operation, absolute value presentation. Sources of data: MICEX, Interfax Information Agency.

In May 1996 a new procedure to determine the official exchange rate was introduced. From that time up to the autumn 1998, the official exchange rate was no longer linked to the MICEX rate. It was determined as the average value of the Bank of Russia's daily-declared bid and offer rates.

The main volume of interbank currency operations during 1995-1997 concerned direct interbank trade (Fig. 33).

The main changes at MICEX in 1996-1997 were:

- introduction of new measures for avoiding risks linked with interbank currency operations (a new stabilisation fund, new open currency positions for the banks-participants, and a new payment system for transactions);

- introduction of a market maker institution to support the liquidity of the Exchange currency sector. Several big commercial banks served the function of a market maker at MICEX;

- introduction of a new trading system (SELT - the System of Electronic Trade), which was organised on the principles of direct interbank currency trade (dealing), but which used the Exchange infrastructure for completing transactions.

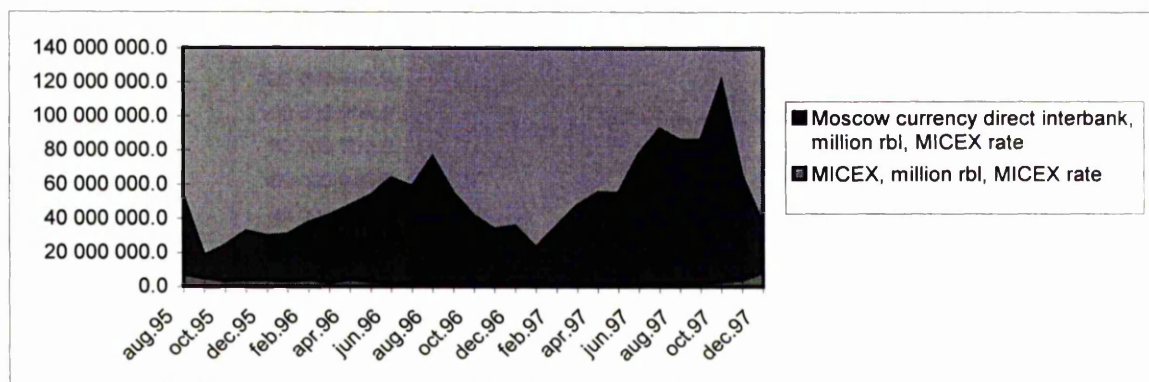


Fig. 33 The Moscow interbank currency markets, monthly volumes of operation. Sources of data: MICEX, Interfax Information Agency.

5.2.2 The Interbank Loans Market

This sector of the market started to recover from the August crisis of 1995 only in the summer of 1996 (Fig. 34). Transactions in the market were short - 1, 2, 3, or 7 days up to a month were the most typical terms, with 90 days as the longest normal term (AFI, various dates). Trade was unsecured and undertaken with mutual limits on volumes of transactions for the banks-participants in the market.

Three important innovations were introduced, together with a qualitatively new presence of the BoR in the market:

- "lombard" (pawnshop) loans from the Bank, secured by first-class government securities;
- REPO for first-class government securities between the BoR and the primary dealers in the government securities market (part 5.2.3 of this chapter);
- overnight loans from the BoR to the primary dealers in the government securities market.

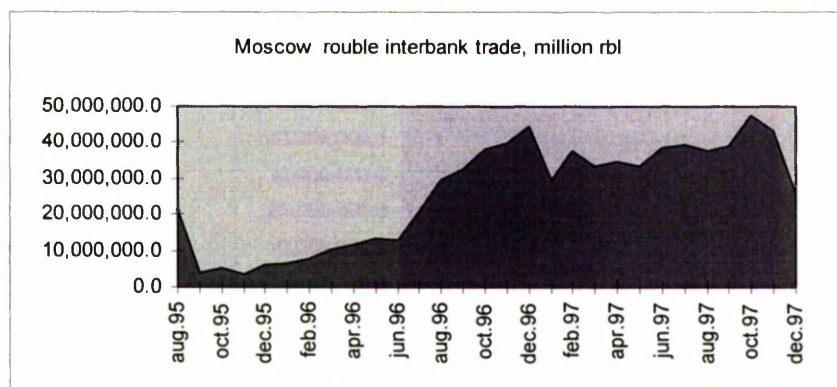


Fig. 34 The Moscow interbank rouble loans market, monthly volume of operations. Source of data: Interfax Information Agency.

There were two ways to borrow resources from the BoR through "lombard" loans (The Bank of Russia Regulation, 1996):

1. at a fixed "lombard" rate;
2. through "lombard" auctions.

A "lombard rate" was the re-financing rate of the BoR for a major period of loans. A "lombard list", a list of possible securities for loans, contained first-class government

securities. Provided they fulfilled the requirements of the Bank, all banks could participate in transactions in the market. Initially only 30-days loans existed. From September 1996 loans were offered for fixed rates depending on the term of lending (3-30 days). Regional banks applied for "lombard" loans at regional branches of the BoR.

"Lombard" loans were extreme measures for borrowing money at higher rates compared to those in the market. As affirmed by an interview with a head of the Government Securities Department of the bank "Rossisky Kredit", K. Svyatny, big banks rarely used "lombard" loans and preferred to borrow money from the BoR via inter-day loans and REPO-transactions. However, for medium and small banks, most of which were regional banks, "lombard" loans were the only way to deal with the BoR (Svyatny, 1997).

The "lombard" rate together with the re-financing rate of the BoR defined a margin for the market price of money borrowing from the money market (Fig. 35).

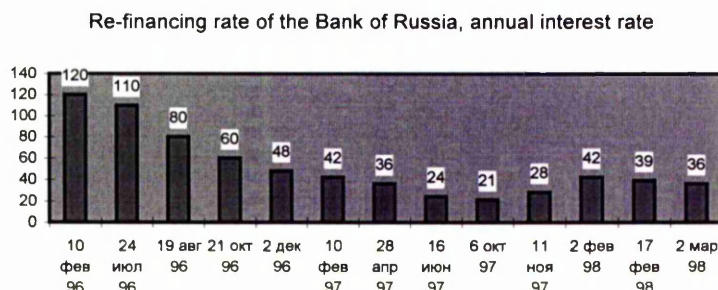


Fig. 35 Re-financing rate of the Bank of Russia in 1996 - end of 1998. Source of information: the Bank of Russia.

As illustrated in Fig. 36, REPO-operations between the BoR and the primary dealers in the government securities market accounted for one-third of direct interbank rouble trade by the end of 1997 - start of 1998. This kind of loan is discussed in part 5.2.3 of this chapter.

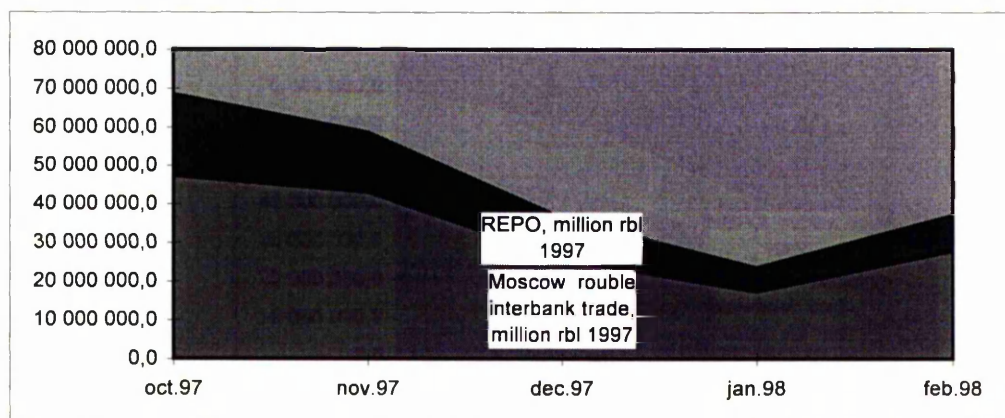


Fig. 36 Comparative monthly volumes of REPO and interbank loans in the Moscow money market in non-denominated roubles. Source of data: Interfax Information Agency.

Overnight loans were unsecured and therefore risky loans for the BoR until February 1998. From February 1998 onwards they became secured by first class government securities. Simultaneously, inter-day loans were introduced to support the inter-day liquidity of banks. These loans previously were available only for the primary dealers in the government securities market. Beginning with the second quarter of 1998 they were extended to all banks holding first-class government securities.

All possibilities for receiving a loan from the BoR were based on further development of the government securities market.

5.2.3 The Government Securities Market

During the years 1995-1997 the government securities market underwent considerable changes.

In October 1995 profit from operations with government securities was exempted from taxation. It was not reintroduced until January 1997. In February 1996 non-residents were allowed to participate in operations in the market. Moreover, in August 1996 some restrictions on their participation in secondary trade disappeared (restrictions on volume of operations).

Both measures were reflected by increased liquidity of the market (Fig. 37).

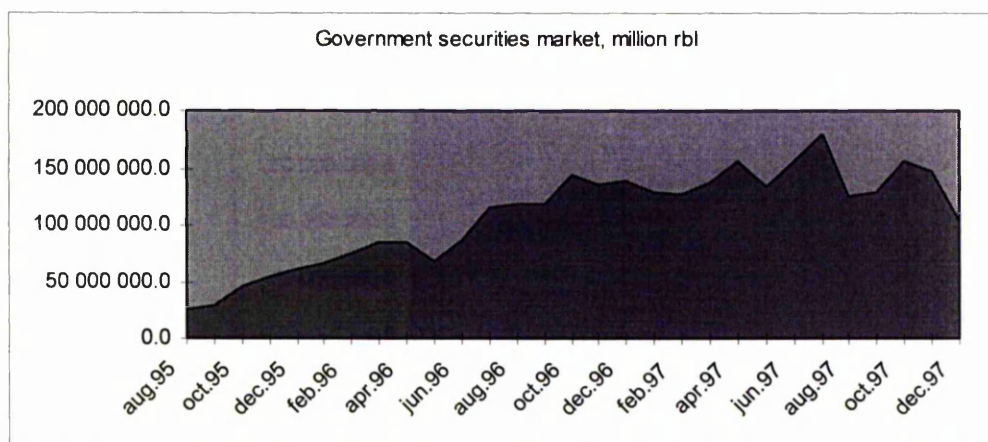


Fig. 37 Monthly volume of operations in the first-class government securities market. Source of data: SICEX.

The main elements of the market as for the end of 1997 are presented in Fig. 38.

One of the most important innovations was a three-level system of participation in market operations, introduced in October 1996 (Gorelov, Nikiforov, and Sokolov, 1997; Starostin, 1997). The institution of primary dealers appeared

in the market with a specific set of rights and responsibilities. The other two levels of participation were ordinary dealers and investors.

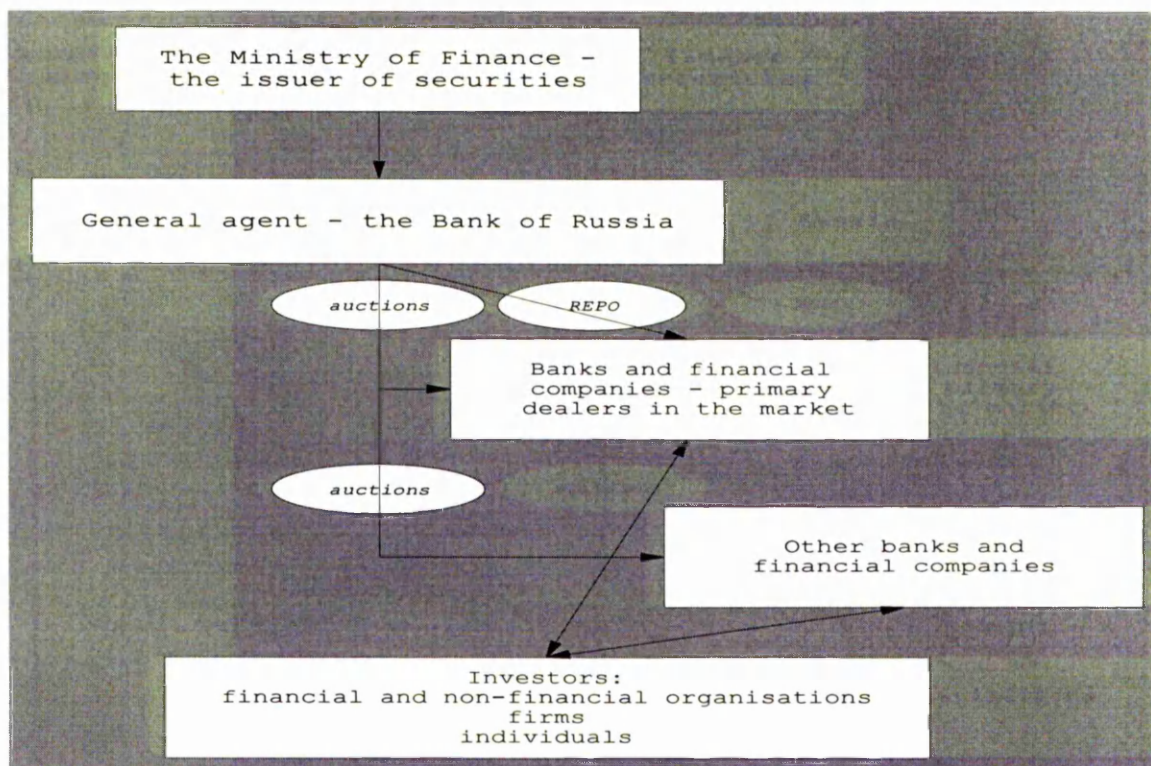


Fig. 38 Structure of the federal government securities market at the end of 1997

Only the primary dealers have the right to set their quotes in the trading system. In return they have the following set of responsibilities:

- compulsory purchases of securities at the auctions;
- maintaining a minimum volume of securities in their portfolios;
- maintaining every day quotes of specific securities; and
- following some restrictions on the level of bids at the auctions and at the start of every secondary session.

By introducing this institution, the BoR shared

responsibility for the liquidity of the market with the primary dealers. Some observers, however, noting the influence of primary dealers on the liquidity of the market, distinguished between momentary and structural liquidity (Zolotukhin, 1997). They recorded a rise in the momentary liquidity (an ability to buy some issues of securities and then resell them without considerable losses in prices and volumes) and a decrease of the structural liquidity (an ability to sell some issues of securities and to buy immediately other issues - "re-investing"). This was caused by the big spreads set by the primary dealers. Further development of the market from the BoR side suggests an introduction of:

- restrictions on spread values for primary dealers, and
- REPO transactions between primary and ordinary dealers.

In 1997 REPO transactions could be done only between the BoR and the primary dealers. This sector of the government securities market has passed through three stages in its development. In the first stage, REPOs were linked with a "short position" of the primary dealers (transactions were done only when the dealers' liabilities exceeded their resources in the trading system). In that period, REPOs were mostly used not as a flexible instrument of monetary policy, but as a means to support the activity of the primary dealers in the market (Kharpachenko and Leonova, 1998). In the second stage, (from spring 1997), REPOs were no longer connected with a "short position" of dealers and were executed at a

fixed rate. This development made the sector dependent on the conditions in the interbank loans market. In the third stage (from September 1997), the REPO market was changed radically. Instead of one REPO session after a trading session in government securities at the MICEX, two REPO sessions were introduced. One session occurred before the MICEX session in the form of an American auction (thus, rates were set by dealers-participants in the auctions, which is a more marketable way to trade). The other REPO session took place at a fixed rate (to close short positions of the dealers) after the MICEX trading session. Nowadays, participants in the first-class government securities market can borrow money at rates more or less reflecting the real demand of the banking system for monetary resources. The fixed term for REPO transactions was two days.

Further development of this sector of the market took two main directions (Karpachenko and Leonova, 1998; Kuznetsov, Nifatov, Karpachenko, and Leonova, 1997):

1. introduction of reverse REPOs, which for the participants would mean the ability to borrow securities and for the BoR the ability to "mop up" excess liquidity through this "quick" sector of the money market;

2. broadening the circle of participants and, in addition to the market consisting of "the Bank of Russia versus the primary dealers", setting up markets involving "dealers versus dealers" and "dealers versus clients".

Bankers pointed out that during the period in question

the market in first-class government securities set the most reliable (in the medium-term perspective) indicator of money value in the economy (Shalaev, 1996). All the other main rates were dependent on the rates in the government securities market, and the monetary authorities often conducted their major regulatory operations in this sector of the market.

5.3 The Siberian Money Market, September 1995 - 1997

By 1997 the regional money market included three sectors: the currency market, the market in first-class government securities (that part which represented the share of regional participants) and the market in sub-federal government securities. Another potential sector of the regional money market, the market for interbank loans, was fragmented and did not provide a basis for day-to-day banks operations in managing liquidity.

The structure of the Siberian regional money market at the end of 1997 is presented in Fig. 39.

5.3.1 The Regional Currency Market

In Novosibirsk the volume of SICEX currency operations in 1996-1997 tended to diminish and was comparatively low (see Fig. 40). Data concerning the interbank currency loans market are unavailable. In the words of some bankers, transactions in the interbank currency market were solitary and often took place between local banks and regional branches of the Moscow

(or other city) banks (from conversations with the bankers - visitors to the SICEX). A major share of interbank currency loans was concentrated in Moscow.

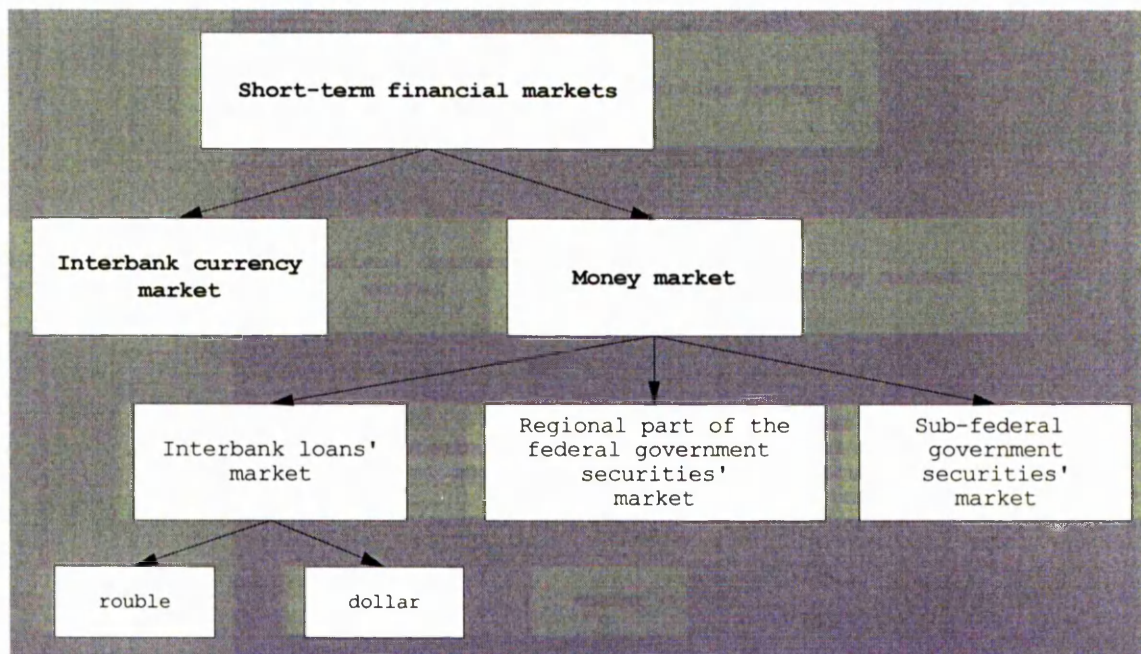


Fig. 39 Structure of the Siberian money market at the end of 1997

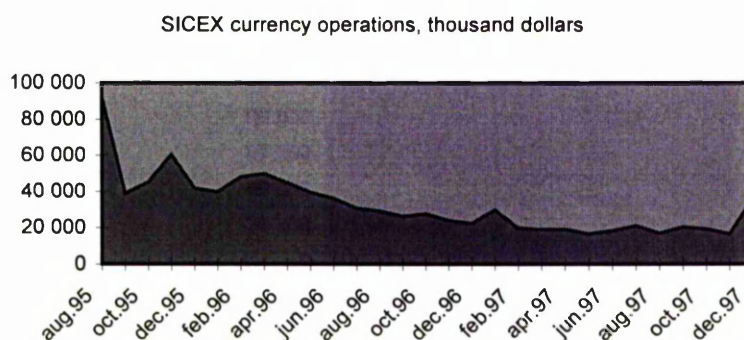


Fig. 40 Monthly volume of SICEX currency operations. Source of data: SICEX.

5.3.2 The Regional Interbank Rouble Loans Market

In the Siberian region, the interbank rouble market existed in the form of "lombard" loans between the BoR and

Siberian banks. Systematic data on that market are unavailable. Another part of the market - the direct interbank regional market - hardly existed after the August crisis. According to our observations and to the interviews with regional bankers, transactions in the market were rare. The market was not treated by participants as an alternative to other sectors of the money market and no organisations kept an intermediary role in this sector of the market.

5.3.3 The Regional Part of the Government Securities Market

This sector of the market became accessible to the regional participants at the beginning of October 1995. Trading facilities organised at SICEX allowed the regional banks and financial companies to trade in first class government securities in real time with participants from Moscow, St. Petersburg, and other financial centres in Russia. Clearing and settlement facilities were set up by the BoR and its Novosibirsk regional branch; clearing in securities was undertaken by MICEX and SICEX. The number of participants in this section of SICEX ranged from 28 to 32 banks and financial companies, representing the major cities in ten Siberian regions.

The share of the whole market represented by SICEX participants was rather small - around one percent of overall market turnover. Absolute values are presented in Fig. 41. All the characteristics of the national market described previously also applied to its "Siberian part".

5.3.4 The Regional Market in Sub-Federal Securities

In 1996-1997 this sector of the money market was developing very rapidly. Several regions and cities issued debt securities and organised local infrastructure for their circulation. For example, circulation of municipal bonds of the city of Moscow was concentrated in Moscow at the Moscow Stock Exchange; of the Tatarstan region, in Moscow at MICEX; of the City of St. Petersburg, in St. Petersburg at the St. Petersburg Interbank Currency Exchange (SPICEX); etc. Similarly, circulation of the Novosibirsk region's debt securities was organised at SICEX in April 1996.

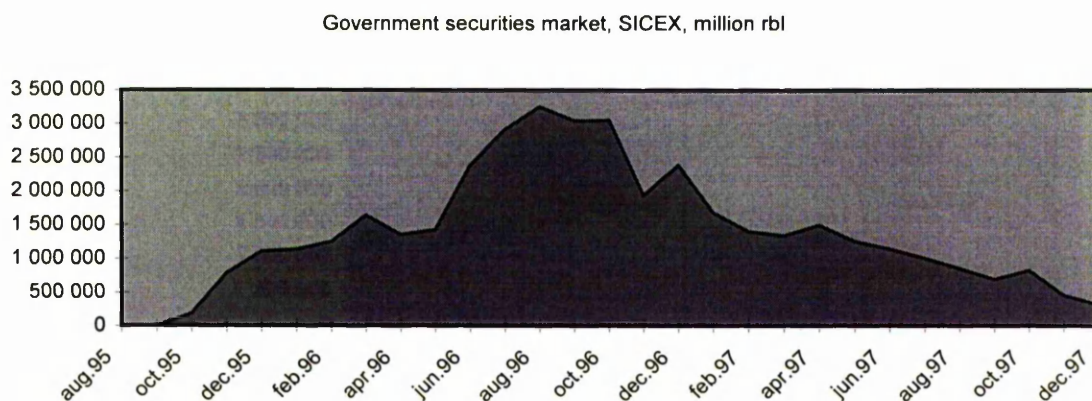


Fig. 41 Monthly volume of operations in the first-class government securities market at SICEX. Source of data: SICEX.

This sector of the regional money market was truly regional (unlike the federal government securities market, which was organised as a nationally distributed market).

SICEX served as a trading vehicle for the market. As such, it supplied trading facilities, including trading terminals to the market participants, presenting trading

information to the Clearing Centre and Depository, and undertaking an informational support service for the market. Financial resources for participation in trading sessions were concentrated in Novosibirsk and were distributed from Novosibirsk after trading sessions.

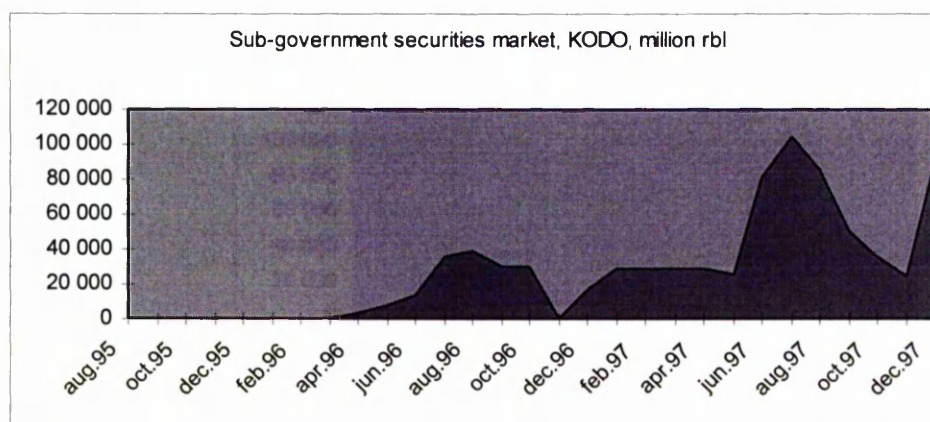


Fig. 42 Monthly volume of operations in the market for short-term debt securities of the Novosibirsk regional administration (KODO). Source of data: SICEX.

Sibecobank (Novosibirsk) was a financial adviser and a trading agent of the regional administration. Both parties accredited financial institutions - dealers in the market. By the end of 1997 there were 22 financial institutions - official dealers in the market, among them:

12 banks, including 6 Siberian banks and 6 Siberian branches of Moscow banks, and

10 regional financial companies.

The majority of participants were regional. Moreover, branches of the Moscow institutions usually conducted an independent portfolio policy.

Table 5. Comparative monthly volumes of operation in the market for short-term debt securities of the Novosibirsk regional administration (KODO) and in the market for first-class government securities (SICEX share).

	Sub-federal government securities market, KODO, million roubles	Government securities market, SICEX share, million roubles	
	1	2	1:2, %
Oct. 95	0	185 404,4	0,00
Nov. 95	0	785 191,0	0,00
Dec. 95	0	1 106 494,5	0,00
Jan. 96	0	1 134 348,6	0,00
Feb. 96	0	1 250 352,9	0,00
Mar. 96	0	1 638 750,3	0,00
Apr. 96	3 011,5	1 350 783,2	0,22
May. 96	8 184,9	1 427 951,3	0,57
Jun. 96	12 937,2	2 380 311,6	0,54
Jul. 96	35 913,7	2 912 314,0	1,23
Aug. 96	38 610,9	3 248 689,4	1,19
Sep. 96	29 761,2	3 043 217,3	0,98
Oct. 96	30 250,8	3 053 973,5	0,99
Nov. 96	247,3	1 935 501,6	0,01
Dec. 96	16 493,8	2 381 293,9	0,69
Jan. 97	28 868,8	1 681 134,5	1,72
Feb. 97	29 075,7	1 404 642,7	2,07
Mar. 97	28 523,4	1 336 935,7	2,13
Apr. 97	29 128,1	1 495 020,2	1,95
May. 97	25 474,2	1 256 277,5	2,03
Jun. 97	80 817,5	1 147 304,8	7,04
Jul. 97	104 125,4	1 008 193,9	10,33
Aug. 97	85 363,6	855 008,3	9,98
Sep. 97	49 559,3	694 140,2	7,14
Oct. 97	35 221,0	827 083,7	4,26
Nov. 97	24 043,9	455 888,6	5,27
Dec. 97	89 406,9	316 258,6	28,27

Source of data: SICEX.

Primary distributions of securities took the form of a weekly auction. Secondary trading took place every working day (except auction days) for one hour. Completion of transactions was secured by full reservation of money and bonds before trading sessions. This "marketable" loan was a non-conditional loan for current balancing of the regional

budget. Redemption of securities was guaranteed by the revenues accruing to the regional budget. From the beginning the market was transparent in the sense of disclosure of information. The monthly volume of operations (excluding auctions) for September 1995 - 1997 is presented in Fig. 42.

Volatility in the volume of operations was linked to a gap between the redemption of the first issue and accommodation of the second (November 1996), and also to the appearance in circulation of several new issues (May - December 1997). Compared to the market for first-class government securities, this market was small (Table 5), but for a considerable number of regional financial institutions it served as a sphere for balancing their current liquidity positions.

5.4 Estimation of the level of liquidity for the Siberian regional money market, 1997

In this section an estimation of the level of liquidity for three sectors of the Siberian regional short-term markets (the currency market and the markets for federal and regional bonds) is undertaken. It is based on three indicators (as described in Chapter 1 of the thesis, pp. 37-39), which derive from a definition of liquidity as the possibility of selling financial instruments (currency, federal and regional bonds, in this study) at an expected volume and price, in reasonable time. In other words, they show the ease of recovering money invested in financial instruments. These

indicators are:

- the number of the market makers in each sector of the market; and
- the price spreads.

Price spreads were calculated as the differences between minimum and maximum prices for every trading day. Minimum (maximum) prices were calculated as weighted averages of minimum (maximum) prices for every traded security as for the end of a trading day. The following formulas give exact expressions for minimum and maximum prices for every trading day:

$$P_{\min} = \left(\sum_{i=1}^n P_{\min}^i * V_i \right) / \sum_{i=1}^n V_i, \quad P_{\max} = \left(\sum_{i=1}^n P_{\max}^i * V_i \right) / \sum_{i=1}^n V_i \quad (1)$$

where $P_{\min}(\max)$ is an average weighted minimum (maximum) price for each trading day; $P_{\min(\max)}^i$ is a minimum (maximum) price at the end of a trading day for security i ; V_i is the volume of daily operations for security i ; and $i=1, n$ is securities in circulation.

If a spread falls in the 1%-corridor ($P_{\min}+1\%$ or $P_{\max}-1\%$), it is considered in this study as normal volatility of the market.

- The volume of daily operations in each sector is compared to that day's "expected" volume, defined as a moving average of the previous 3 days trading, which is taken

here as an indicator of the "normal" expectations of market participants.

A similar approach to the definition of rational expectations via "moving average" representation is used in Hansen and Sargent (1991: p. 3-5).

The formula (2) gives an exact expression for this "moving average":

$$V_n^{ex} = \frac{V_{n-1} + V_{n-2} + V_{n-3}}{3} \quad (2)$$

where V_n^{ex} is the "expected" volume of operations for day n , defined as the average of $V_{n-1}, V_{n-2}, V_{n-3}$, the volumes of operations on the three previous working days.

If a difference between the real and "expected" volume of operations is negative, this means that some expectations of market participants remain unrealised, e.g. some instruments offered to the market are unsold. When the "expected" volume of operations exceeds the real one, this constitutes the very essence of market non-liquidity (given the price movement at the "expected" level). A "normal" level for such a difference is usually set by a researcher, which is considered as a normal volatility of the market; 10% is often used as a "normal" level, especially for developing markets (Ivanter and Karpovich, 1996).

An estimation was done for the 1997 calendar year - that

is, for a long period of time, including normal seasonable volatility in volume and prices. The next three sections of the thesis present the results of liquidity estimation for the main sectors of the Siberian regional money market - the currency market and the markets for federal and sub-federal bonds.

5.4.1 The Currency Market

We consider here the regional currency market as a potential sector for banks to invest large amounts of monetary resources, with the goal of profiting from quick changes in the rouble rate. We analyse only the liquidity of the organised currency market, because data for the direct interbank currency market in the region were unobtainable. Besides, as we already mentioned on pp. 149-150, transactions at this sector of the regional market were rare.

As for the organised currency market, which operated at SICEX, the only market maker was the regional branch of the Bank of Russia. Yet, at the time of introducing the new principle for setting the official rouble exchange rate (May 1996) (p. 138 of this chapter), the branch was not obliged to participate in trade. This factor was one of the main reasons for the 1997 decrease in liquidity of the regional currency market and of the number of participants in SICEX's currency operations.

As for price movement, exchange rates set at the MICEX and SICEX trading sessions were different due to separate

trading facilities, but both of them were regulated by the same measures, and most of all, by the "currency corridor" (p. 108 of the chapter 4). Price movements for this sector of the market, as defined by the "currency corridor", were absolutely predictable by the market participants. It is not necessary for this market to calculate a price spread movement, using the formula (1), because this spread was fixed by the BoR for every trading day. Fig. 43 illustrates this, showing that the price movement in the market was affected by a linear trend of the exchange rate of about 97%. Price movement at the market was orchestrated not by the market, but by administrative measures.

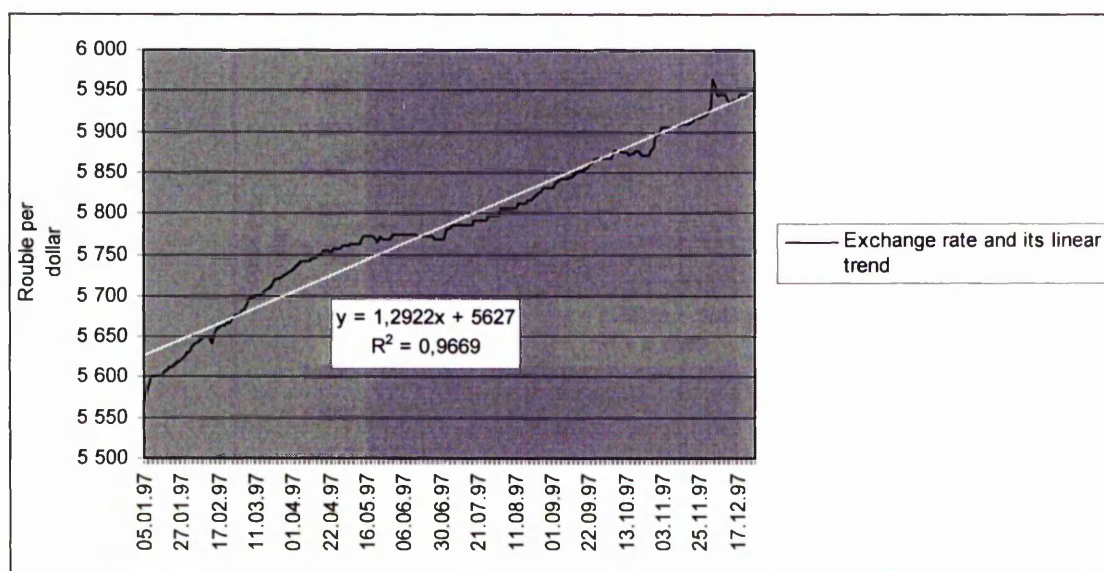


Fig. 43 Siberian Interbank Currency Exchange: dollar exchange rate and its linear trend. Source of data: SICEX.

The volume of operations was relatively stable, at a level of \$1 million daily, with two exceptional periods at the very beginning and the very end of the year (Fig. 44). However, the difference between the daily volume of

operations and the "expected" volume (represented by the moving 3 days average volume) often exceeded 10% of the volume of operations for negative numbers (see table 6).

In the table such days are shadowed. They accounted for 28% of the overall number of trading days. Such a large proportion of "bad" days in the market does not permit it to be described as "liquid".

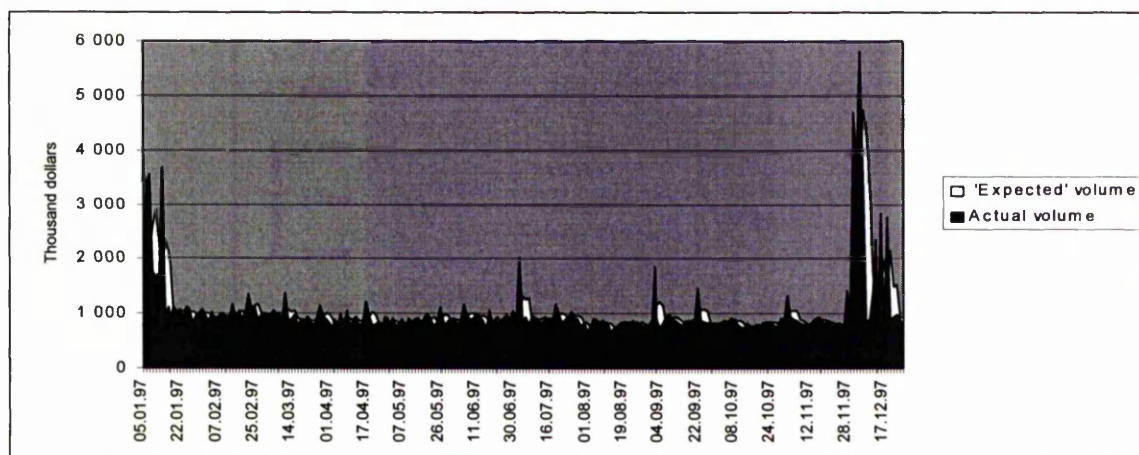


Fig. 44 The SICEX "expected" and real daily volume of currency operations. Source of data: SICEX.

5.4.2 The Federal Bonds Market

The regional market for federal bonds is an inseparable part of the national market. In spite of the fact that there were no primary dealers trading in bonds at SICEX, primary dealers at the national level were constantly supporting the market. By the end of 1997 there were 31 primary dealers working at MICEX with obligatory requirements for a minimum volume of everyday operations and two-way quotes for traded securities.

Table 6. Difference between the real and expected volume of operations at the SICEX currency market, nominal and percentage presentation

Data	Difference, mln of dollars	Percent of volume of operations	Data	Difference, mln of dollars	Percent of volume of operations	Data	Difference, mln of dollars	Percent of volume of operations	Data	Difference, mln of dollars	Percent of volume of operations
05.01.97	760	100,00%	02.04.97	-183,33	-26,19%	03.07.97	-460,00	-54,12%	29.09.97	-10,00	-1,22%
06.01.97	2 620,00	77,51%	03.04.97	86,67	9,74%	04.07.97	-316,67	-34,05%	30.09.97	-53,33	-6,93%
08.01.97	1 490,00	41,85%	04.04.97	-3,33	-0,42%	07.07.97	-496,67	-64,50%	01.10.97	-30,00	-3,85%
09.01.97	-816,67	-46,67%	07.04.97	173,33	17,87%	08.07.97	100,00	10,53%	02.10.97	60,00	7,06%
10.01.97	-1 246,67	-75,56%	08.04.97	-146,67	-19,82%	09.07.97	26,67	2,93%	03.10.97	70,00	8,05%
13.01.97	-620,00	-36,47%	09.04.97	223,33	21,07%	10.07.97	13,33	1,50%	06.10.97	6,67	0,79%
14.01.97	1 980,00	53,80%	10.04.97	-173,33	-23,11%	11.07.97	-126,67	-16,03%	07.10.97	56,67	6,23%
15.01.97	-1 383,33	-144,10%	11.04.97	40,00	4,49%	14.07.97	76,67	8,16%	08.10.97	6,67	0,76%
16.01.97	-1 003,33	-90,39%	14.04.97	30,00	3,23%	15.07.97	16,67	1,87%	09.10.97	-76,67	-9,58%
17.01.97	-1 006,67	-110,62%	15.04.97	-106,67	-14,22%	16.07.97	46,67	5,07%	10.10.97	-113,33	-15,11%
20.01.97	116,67	10,51%	16.04.97	13,33	1,53%	17.07.97	-56,67	-6,59%	13.10.97	-80,00	-10,96%
21.01.97	-63,33	-6,46%	17.04.97	370,00	30,33%	18.07.97	270,00	23,28%	14.10.97	50,00	6,17%
22.01.97	70,00	6,54%	18.04.97	13,33	1,39%	21.07.97	-10,00	-1,03%	15.10.97	16,67	2,14%
23.01.97	-143,33	-15,75%	21.04.97	-246,67	-32,03%	22.07.97	-176,67	-21,54%	16.10.97	-23,33	-3,11%
24.01.97	123,33	11,11%	22.04.97	-193,33	-24,47%	23.07.97	-93,33	-10,49%	17.10.97	10,00	1,27%
27.01.97	40,00	3,74%	23.04.97	0,00	0,00%	24.07.97	36,67	3,94%	20.10.97	-3,33	-0,43%
28.01.97	-220,00	-27,16%	24.04.97	-80,00	-11,11%	25.07.97	150,00	14,56%	21.10.97	50,00	6,10%
29.01.97	-36,67	-3,82%	25.04.97	146,67	15,77%	28.07.97	-30,00	-3,26%	22.10.97	56,67	6,67%
30.01.97	63,33	6,27%	28.04.97	50,00	5,68%	29.07.97	-80,00	-9,09%	23.10.97	26,67	3,17%
31.01.97	143,33	13,40%	29.04.97	-53,33	-6,75%	30.07.97	-183,33	-24,12%	24.10.97	-26,67	-3,29%
03.02.97	-53,33	-5,56%	30.04.97	43,33	4,76%	31.07.97	-13,33	-1,59%	27.10.97	-53,33	-6,84%
04.02.97	-163,33	-19,22%	05.05.97	-100,00	-13,16%	01.08.97	-156,67	-23,38%	28.10.97	-50,00	-6,58%
05.02.97	70,00	6,80%	06.05.97	0,00	0,00%	04.08.97	3,33	0,44%	29.10.97	136,67	14,86%
06.02.97	-136,67	-16,87%	07.05.97	70,00	7,78%	05.08.97	163,33	17,75%	30.10.97	60,00	6,82%
07.02.97	33,33	3,58%	08.05.97	-86,67	-11,71%	06.08.97	86,67	9,96%	31.10.97	476,67	35,84%
10.02.97	86,67	8,58%	12.05.97	100,00	10,87%	07.08.97	-20,00	-2,41%	03.11.97	-103,33	-10,99%
11.02.97	43,33	4,51%	13.05.97	-23,33	-2,81%	08.08.97	-23,33	-2,75%	04.11.97	-150,00	-16,67%

12.02.97	-56,67	-6,23%	14.05.97	50,00	5,68%	11.08.97	-60,00	-7,59%	05.11.97	-196,67	-22,81%
13.02.97	-50,00	-5,49%	15.05.97	43,33	4,71%	12.08.97	-13,33	-1,65%	06.11.97	-90,00	-11,11%
14.02.97	233,33	20,11%	16.05.97	-96,67	-12,39%	13.08.97	-146,67	-21,89%	10.11.97	-56,67	-7,08%
17.02.97	-83,33	-9,16%	19.05.97	70,00	7,53%	14.08.97	-26,67	-3,65%	11.11.97	-43,33	-5,56%
18.02.97	66,67	6,29%	20.05.97	93,33	9,62%	15.08.97	43,33	5,56%	12.11.97	3,33	0,42%
19.02.97	-153,33	-17,23%	21.05.97	-3,33	-0,37%	16.08.97	93,33	11,38%	13.11.97	66,67	7,75%
20.02.97	76,67	7,44%	22.05.97	-170,00	-22,37%	19.08.97	73,33	8,63%	14.11.97	96,67	10,62%
21.02.97	356,67	26,42%	23.05.97	-33,33	-3,97%	20.08.97	23,33	2,78%	17.11.97	73,33	7,89%
24.02.97	-50,00	-4,81%	26.05.97	280,00	25,23%	21.08.97	-46,67	-5,91%	18.11.97	-40,00	-4,65%
25.02.97	-30,00	-2,70%	27.05.97	56,67	5,90%	22.08.97	43,33	4,98%	19.11.97	-90,00	-11,11%
26.02.97	-296,67	-34,10%	28.05.97	-190,00	-24,36%	25.08.97	-13,33	-1,63%	20.11.97	-26,67	-3,17%
27.02.97	-26,67	-2,72%	29.05.97	-80,00	-9,20%	26.08.97	-16,67	-2,06%	21.11.97	-36,67	-4,58%
28.02.97	23,33	2,31%	30.05.97	20,00	2,25%	27.08.97	-53,33	-6,84%	24.11.97	-56,67	-7,46%
03.03.97	16,67	1,72%	02.06.97	73,33	7,97%	28.08.97	-53,33	-7,11%	25.11.97	10,00	1,23%
04.03.97	-16,67	-1,72%	03.06.97	-123,33	-16,02%	29.08.97	10,00	1,27%	26.11.97	40,00	4,82%
05.03.97	76,67	7,23%	04.06.97	30,00	3,37%	01.09.97	96,67	11,11%	27.11.97	-60,00	-8,11%
06.03.97	-40,00	-4,17%	05.06.97	310,00	26,50%	02.09.97	1 046,67	56,58%	28.11.97	616,67	43,74%
07.03.97	3,33	0,33%	06.06.97	-13,33	-1,43%	03.09.97	-290,00	-32,95%	01.12.97	26,67	2,61%
11.03.97	-146,67	-17,05%	09.06.97	-116,67	-13,26%	04.09.97	-480,00	-66,67%	02.12.97	3 653,33	77,57%
12.03.97	420,00	30,88%	10.06.97	-83,33	-9,16%	05.09.97	-340,00	-41,98%	03.12.97	1 350,00	36,19%
13.03.97	-193,33	-21,97%	11.06.97	103,33	10,23%	08.09.97	126,67	13,62%	04.12.97	2 656,67	45,73%
14.03.97	-143,33	-16,10%	13.06.97	6,67	0,71%	09.09.97	150,00	15,46%	05.12.97	-1 150,00	-31,92%
17.03.97	-53,33	-5,39%	16.06.97	-93,33	-10,85%	10.09.97	-13,33	-1,50%	08.12.97	-3 530,00	-415,29%
18.03.97	-140,00	-17,95%	17.06.97	-226,67	-31,92%	11.09.97	-70,00	-8,14%	09.12.97	-2 530,00	-284,27%
19.03.97	-6,67	-0,76%	18.06.97	203,33	19,55%	12.09.97	-76,67	-9,24%	10.12.97	-410,00	-29,93%
20.03.97	-83,33	-10,42%	19.06.97	-40,00	-4,82%	15.09.97	-80,00	-10,26%	11.12.97	1 323,33	56,07%
21.03.97	120,00	12,77%	20.06.97	60,00	6,52%	16.09.97	16,67	1,98%	15.12.97	-820,00	-113,89%
24.03.97	-3,33	-0,38%	23.06.97	-140,00	-17,72%	17.09.97	53,33	6,13%	16.12.97	1 346,67	47,59%
25.03.97	-110,00	-14,47%	24.06.97	13,33	1,55%	18.09.97	30,00	3,49%	17.12.97	-1 120,00	-131,76%
26.03.97	83,33	8,87%	25.06.97	53,33	5,86%	19.09.97	23,33	2,65%	18.12.97	1 283,33	46,67%
27.03.97	283,33	24,85%	26.06.97	116,67	12,03%	22.09.97	580,00	40,00%	19.12.97	-1 263,33	-143,56%
28.03.97	-6,67	-0,71%	27.06.97	-33,33	-3,79%	23.09.97	-203,33	-23,64%	22.12.97	-553,33	-58,87%
31.03.97	-116,67	-13,11%	30.06.97	120,00	11,54%	24.09.97	-223,33	-26,59%	23.12.97	-553,33	-57,04%
01.04.97	-170,00	-20,73%	01.07.97	-93,33	-10,73%	25.09.97	-240,00	-29,63%	24.12.97	-40,00	-4,49%
			02.07.97	1 090,00	53,96%	26.09.97	3,33	0,40%	25.12.97	-173,33	-22,81%

Siberian traders, participating in the united trading sessions, used the possibilities offered by the primary dealers at the national level of the market.

As for the price spread, calculated following the formulas (1), for most of the time it was within the boundaries of a one-percent-difference corridor (Fig. 45).

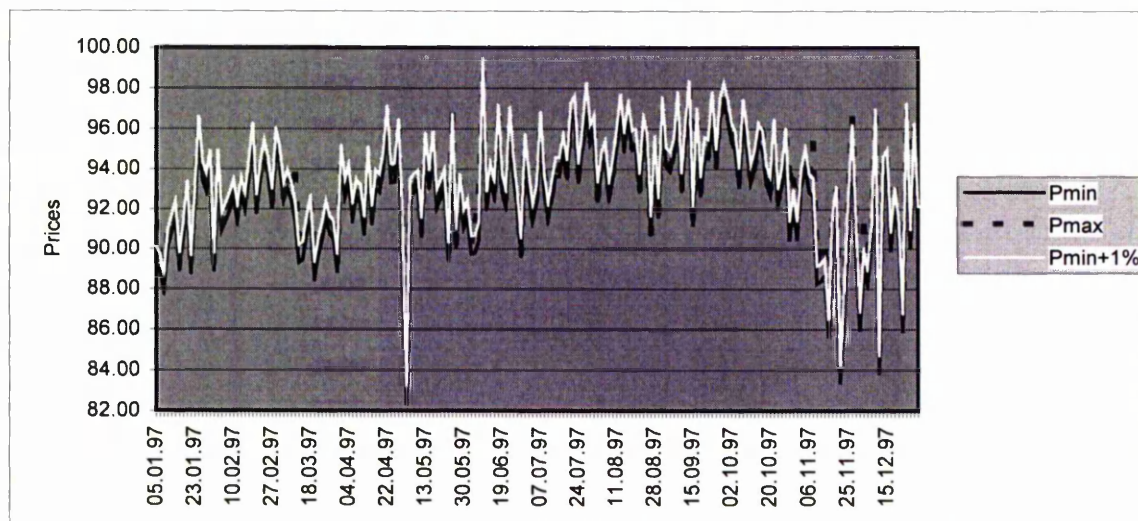


Fig. 45 Price spread in the federal bond market. Source of data: SICEX.

There were 20 out of 199 trading days (10%), when Pmax exceeded Pmin by more than 1%. For half of these cases the excess was very small. Based on this criterion, the market was liquid.

Examination of the movement in the volume of operations reveals quite a changeable picture, with many periods of unrealised expectations on part of the market participants (Fig. 46). (The "expected" volume of operations is defined by the formula (2)).

Table 7 shows, that on 49.7% of the days of secondary trade, the "expected" volume of operations exceeded the actual volume. However, the table refers only to the SICEX share, which usually comprised about 2% of the entire market concentrated at MICEX.

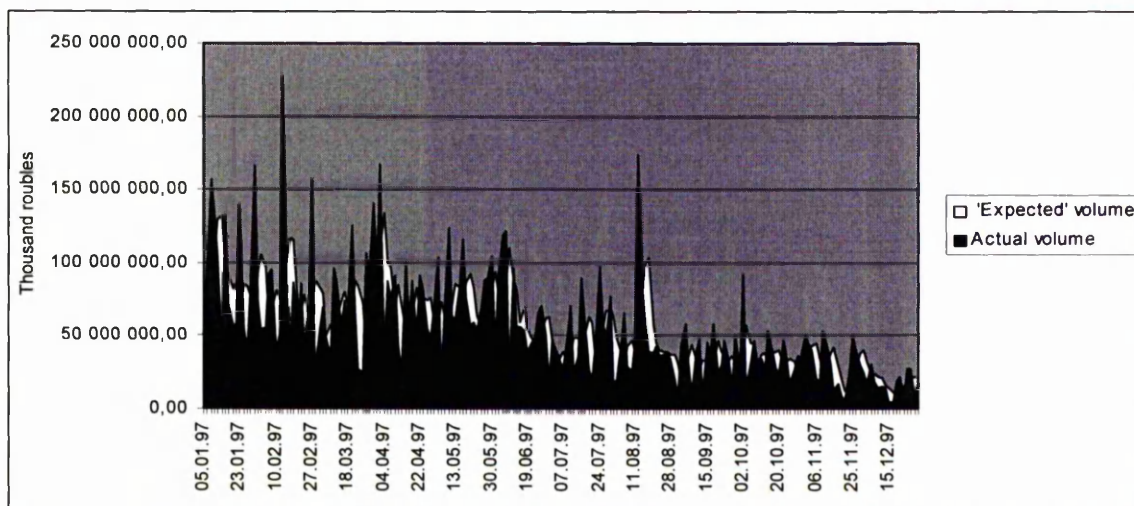


Fig. 46 Daily volume of operations in federal government securities at SICEX. Source of data: SICEX.

Therefore, we could consider the regional part of the federal bonds market liquid, assuming that, if Siberian traders wanted to extend their operations, they could always find a counterpart at the national level of the market, depending on the offered price.

As a result, according to the combination of three criteria for liquidity, the regional market for federal government securities in 1997 was liquid.

5.4.3 The Sub-Federal Bonds Market

There was one market maker in this sector of the regional

Table 7. Difference between the real and expected volume of operations in federal government securities, nominal and percentage presentation

Data	Difference, thousand of roubles	Percent of volume of operations	Data	Difference, thousand of roubles	Percent of volume of operations	Data	Difference, thousand of roubles	Percent of volume of operations
05.01.97	50 565 136,50	100,00%	05.05.97	-54 667 389,27	-300,23%	01.09.97	-23 099 755,13	-290,73%
06.01.97	43 685 281,70	46,35%	06.05.97	6 572 155,77	9,41%	02.09.97	22 114 784,50	51,52%
09.01.97	84 635 985,85	53,89%	08.05.97	60 050 852,40	48,45%	04.09.97	33 979 567,20	58,96%
10.01.97	34 596 164,37	25,59%	12.05.97	-7 656 224,00	-12,15%	05.09.97	-5 459 912,67	-17,78%
13.01.97	-24 729 779,03	-23,75%	13.05.97	-25 106 715,23	-41,51%	08.09.97	-33 312 221,63	-318,98%
14.01.97	-91 345 002,20	-224,01%	15.05.97	1 991 264,53	2,36%	09.09.97	7 068 227,90	17,67%
16.01.97	38 315 021,47	29,10%	16.05.97	46 340 575,93	40,07%	11.09.97	20 904 493,27	43,59%
17.01.97	-20 583 405,37	-28,75%	19.05.97	-11 491 700,30	-15,25%	12.09.97	-24 239 498,80	-283,23%
20.01.97	-24 418 482,13	-42,89%	20.05.97	-35 473 848,67	-62,94%	15.09.97	13 153 418,57	29,02%
21.01.97	-30 062 193,50	-53,04%	22.05.97	-23 326 906,17	-39,44%	16.09.97	1 714 586,00	4,81%
23.01.97	77 695 931,27	55,72%	23.05.97	-10 565 985,20	-19,91%	18.09.97	27 741 025,93	48,17%
24.01.97	-28 890 697,90	-52,09%	26.05.97	12 344 917,10	18,01%	19.09.97	-21 770 638,80	-89,15%
27.01.97	-45 943 889,70	-121,18%	27.05.97	27 035 894,37	30,98%	22.09.97	-9 535 890,70	-32,12%
28.01.97	1 441 294,27	1,82%	29.05.97	19 910 341,13	22,24%	23.09.97	9 081 523,20	19,61%
30.01.97	108 746 289,80	65,42%	30.05.97	23 131 354,27	22,05%	25.09.97	-1 269 011,70	-3,94%
31.01.97	-22 227 523,33	-30,80%	02.06.97	-52 935 908,70	-129,19%	26.09.97	-21 544 727,20	-148,35%
03.02.97	-51 997 579,17	-96,63%	03.06.97	13 942 088,97	15,09%	29.09.97	19 182 469,23	38,22%
04.02.97	-41 991 818,10	-75,79%	05.06.97	39 119 628,27	33,00%	30.09.97	-4 747 184,73	-17,22%
06.02.97	31 467 826,63	34,23%	06.06.07	37 247 873,00	30,72%	02.10.97	61 654 444,63	66,72%
07.02.97	27 880 928,30	29,37%	09.06.97	-86 619 363,87	-359,19%	03.10.97	-42 494 348,90	-298,64%
10.02.97	-42 839 697,47	-112,99%	10.06.97	7 802 735,03	8,15%	06.10.97	-13 767 854,07	-44,46%
11.02.97	-23 461 291,00	-45,59%	13.06.97	-23 828 897,23	-42,14%	07.10.97	479 267,00	1,03%
13.02.97	165 428 724,73	72,92%	16.06.97	-2 771 038,30	-4,94%	09.10.97	3 245 629,57	9,61%
14.02.97	-33 504 253,27	-46,59%	17.06.97	-16 540 254,33	-31,26%	10.10.97	-2 973 305,93	-8,73%
17.02.97	-71 170 636,87	-156,16%	19.06.97	-16 925 577,27	-44,26%	13.10.97	-12 285 527,00	-47,68%
18.02.97	-28 154 622,93	-32,50%	20.06.97	-5 526 616,00	-12,69%	14.10.97	22 374 300,37	41,77%
20.02.97	-7 743 104,20	-12,84%	23.06.97	4 989 155,40	10,00%	16.10.97	744 336,80	1,93%
21.02.97	21 603 042,63	25,19%	24.06.97	22 172 271,87	33,56%	17.10.97	-11 319 745,73	-40,47%
24.02.97	-35 779 704,23	-85,63%	26.06.97	17 619 371,00	24,89%	20.10.97	-16 655 842,60	-71,27%
25.02.97	3 743 871,37	5,64%	27.06.97	-11 510 476,77	-22,69%	21.10.97	16 925 210,97	36,10%
27.02.97	92 646 720,10	58,90%	30.06.97	-44 806 382,60	-252,92%	23.10.97	846 822,97	2,52%

28.02.97	-62 641 884,67	-242,47%	01.07.97	1 117 654,43	2,35%	24.10.97	-17 972 382,77	-107,98%
03.03.97	-30 391 196,97	-57,59%	03.07.97	-2 105 749,00	-5,76%	27.10.97	-5 464 929,90	-20,31%
04.03.97	-8 839 874,30	-12,67%	04.07.97	-788 299,33	-2,38%	28.10.97	10 209 496,53	28,42%
06.03.97	223 344,50	0,45%	07.07.97	-12 277 122,80	-45,82%	30.10.97	7 284 100,23	21,57%
07.03.97	-22 460 624,50	-64,26%	08.07.97	16 724 861,90	34,21%	31.10.97	18 327 083,53	36,27%
11.03.97	44 708 957,60	46,48%	10.07.97	34 184 906,07	48,52%	03.11.97	3 652 143,70	8,35%
13.03.97	26 948 236,60	30,90%	11.07.97	-24 012 636,53	-97,21%	04.11.97	-3 072 148,33	-7,76%
14.03.97	-16 324 473,00	-28,91%	14.07.97	-12 706 353,87	-35,98%	06.11.97	-24 243 628,30	-118,97%
17.03.97	-5 534 874,50	-7,44%	15.07.97	45 440 393,40	51,10%	10.11.97	-15 554 941,90	-81,80%
18.03.97	-10 390 739,03	-16,67%	17.07.97	12 990 774,90	20,74%	11.11.97	26 928 693,60	50,56%
20.03.97	61 337 623,73	48,78%	18.07.97	-35 634 734,33	-133,67%	13.11.97	10 913 887,13	26,11%
21.03.97	-23 618 917,13	-36,98%	21.07.97	-40 380 810,07	-212,21%	14.11.97	-7 342 733,90	-23,93%
24.03.97	-57 307 870,40	-214,90%	22.07.97	5 669 303,07	13,57%	17.11.97	-29 902 166,90	-248,92%
25.03.97	-47 705 581,40	-195,62%	24.07.97	67 485 109,43	69,83%	18.11.97	-11 059 658,43	-64,66%
27.03.97	67 856 337,23	63,92%	25.07.97	9 658 729,00	15,54%	20.11.97	-11 283 566,97	-130,44%
28.03.97	38 018 175,67	42,04%	28.07.97	-19 034 702,17	-39,81%	21.11.97	-7 913 891,33	-169,26%
31.03.97	66 948 060,37	47,61%	29.07.97	8 326 990,37	10,79%	24.11.97	14 559 931,27	58,94%
01.04.97	-17 010 350,30	-17,83%	31.07.97	-43 284 135,33	-226,61%	25.11.97	36 465 523,83	74,20%
03.04.97	58 304 212,80	34,89%	01.08.97	-29 070 994,07	-153,28%	27.11.97	15 125 526,53	36,62%
04.04.97	-96 526 479,33	-255,07%	04.08.97	6 104 116,50	13,71%	28.11.97	-8 456 846,67	-28,26%
07.04.97	-12 805 338,33	-14,67%	05.08.97	38 461 153,50	58,28%	01.12.97	-15 137 134,17	-60,59%
08.04.97	-22 106 580,33	-29,35%	07.08.97	-15 089 498,10	-53,75%	02.12.97	-15 149 496,77	-89,54%
10.04.97	24 504 785,93	26,83%	08.08.97	-20 222 068,47	-77,86%	04.12.97	6 779 306,00	22,07%
11.04.97	-40 641 865,47	-92,35%	11.08.97	4 728 400,73	10,57%	05.12.97	-6 419 015,87	-36,08%
14.04.97	-46 433 923,00	-195,24%	12.08.97	141 470 915,60	81,12%	08.12.97	-7 411 481,50	-51,47%
15.04.97	46 919 195,80	46,94%	14.08.97	-2 482 227,67	-3,13%	09.12.97	-5 912 287,97	-39,26%
17.04.97	4 768 964,40	7,86%	15.08.97	-42 726 288,27	-75,32%	11.12.97	-1 571 125,93	-11,08%
18.04.97	26 007 072,20	29,73%	18.08.97	-64 079 188,17	-162,76%	15.12.97	-9 427 128,10	-184,19%
21.04.97	-32 314 360,93	-64,12%	19.08.97	-19 993 127,13	-52,00%	16.12.97	-6 312 289,20	-122,82%
22.04.97	24 897 695,40	27,33%	21.08.97	-2 531 770,20	-5,98%	18.12.97	10 311 155,97	55,87%
24.04.97	5 871 474,17	7,14%	22.08.97	-4 198 560,27	-11,71%	19.12.97	12 110 960,80	55,86%
25.04.97	-20 011 246,13	-36,69%	25.08.97	-1 481 407,40	-3,96%	22.12.97	-5 229 907,73	-53,03%
28.04.97	-28 844 023,13	-61,24%	26.08.97	131 541,20	0,34%	23.12.97	11 158 044,97	40,10%
29.04.97	6 574 988,73	9,69%	28.08.97	-2 898 131,27	-8,43%	25.12.97	7 842 122,33	28,38%
30.04.97	47 177 442,80	45,50%	29.08.97	-16 721 135,07	-83,23%	26.12.97	-13 748 947,83	-171,34%
						29.12.97	-2 611 557,47	-14,08%

money market - Sibecobank (Novosibirsk), acting in the role of a general agent on behalf of the issuer (the administration of the Novosibirsk region). By the end of 1997 it was able to keep the market out of high volatility, because the volume of the market was relatively small. With market growth, one market maker would become insufficient.

Federal and sub-federal government securities markets in Russia differ significantly from developed ones. In the latter, market makers are accredited by the Exchanges, while in the former, market makers are accredited by an issuer. This difference is especially meaningful for sub-federal bond markets, where a few market makers act in the interests of the issuers rather than the market as a whole (when these interests differ).

Price movements in 1997 in the market looked very similar to those of the federal bonds market (Fig. 47). Minimum and maximum prices were calculated as in the formulas (1). Only in 10 out of 211 cases (4.7%) did the P_{max} exceed the expected boundary of $P_{min}+1\%$.

Volume movement looked different - very volatile, with many periods when the "expected" volume of operations exceeded the actual volume (Fig. 48).

Table 8 shows, that in 102 out of 211 cases (48%), the "expected" volume of operations exceeded the actual volume by more than 10%. Based on this criteria, the market was not liquid.

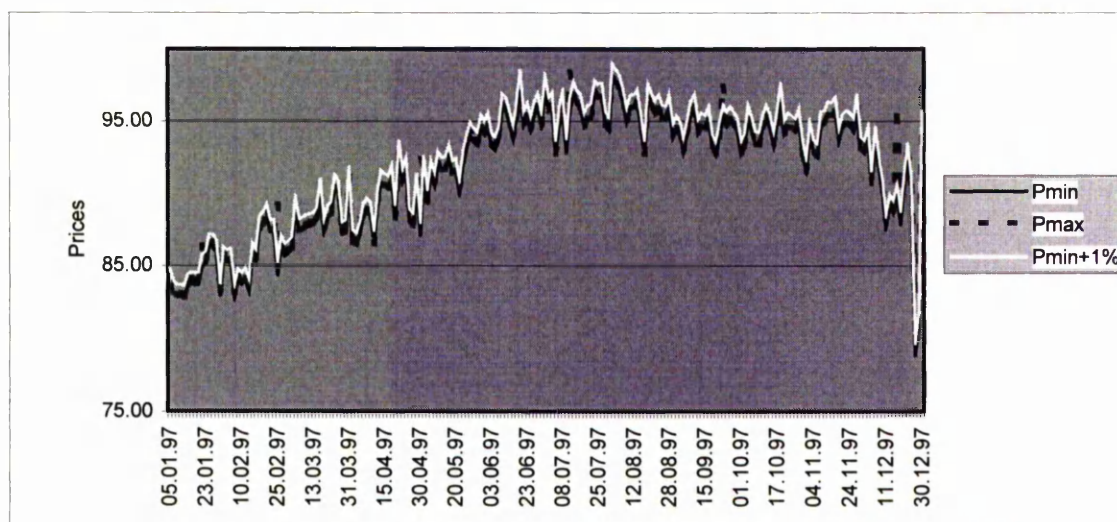


Fig. 47 Price spreads in the sub-federal bonds market. Source of data: SICEX.

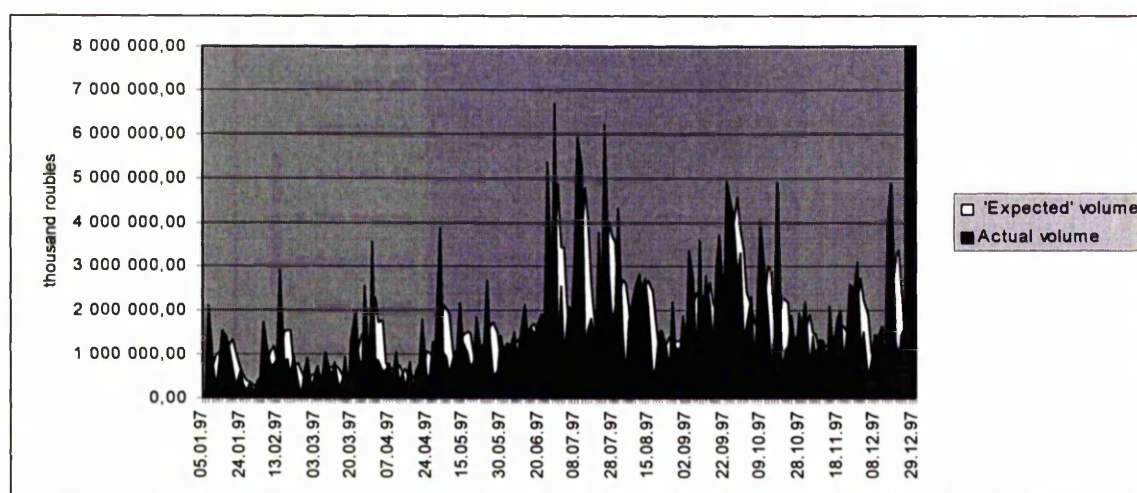


Fig. 48 Daily volume of operations in sub-federal government securities at SICEX. Source of data: SICEX.

Therefore, the regional market for sub-federal securities in 1997 can not be considered liquid. The possibility of trading in the expected volume of securities was not realised at most trading days.

03.03.97	7	066,34	1,26%	27.06.97	-474	966,35	-18,70%	24.10.97	940	690,86	49,98%	
04.03.97	164	577,99	23,01%	30.06.97	3	463	388,59	27.10.97	-423	698,11	-43,88%	
05.03.97	-169	597,08	-54,11%	01.07.97	-3	811	750,86	28.10.97	609	761,08	31,16%	
06.03.97	496	889,11	48,38%	02.07.97	-865	079,71	-33,75%	30.10.97	4	546,22	0,28%	
07.03.97	51	828,35	7,03%	03.07.97	-2	482	848,92	31.10.97	689	754,31	31,36%	
11.03.97	-219	513,72	-46,40%	04.07.97	561	559,76	26,94%	03.11.97	-1	215	216,40	-172,26%
12.03.97	79	547,25	9,64%	07.07.97	28	367,52	1,50%	04.11.97	-72	457,65	-5,06%	
13.03.97	-451	804,24	-199,30%	08.07.97	1	555	853,25	06.11.97	-529	513,50	-57,82%	
14.03.97	-112	500,03	-28,42%	10.07.97	3	538	349,75	10.11.97	311	693,55	23,45%	
17.03.97	472	901,65	49,49%	11.07.97	1	562	401,38	11.11.97	94	607,84	7,17%	
18.03.97	-420	345,88	-397,76%	14.07.97	-3	698	997,97	13.11.97	-385	056,13	-47,94%	
20.03.97	876	400,08	64,34%	15.07.97	-2	517	909,17	14.11.97	955	860,47	45,37%	
21.03.97	1	190	241,61	17.07.97	-794	924,60	-43,25%	17.11.97	-283	055,13	-25,12%	
24.03.97	-177	160,41	-18,11%	18.07.97	-268	319,59	-21,80%	18.11.97	476	038,42	26,13%	
25.03.97	-857	590,45	-145,73%	21.07.97	2	238	699,81	20.11.97	312	167,49	15,63%	
27.03.97	1	352	061,09	22.07.97	-232	582,89	-11,33%	21.11.97	-862	967,06	-109,85%	
28.03.97	-628	419,17	-84,86%	24.07.97	3	858	621,19	24.11.97	-14	972,94	-0,99%	
31.03.97	2	282	294,48	25.07.97	-1	258	100,18	25.11.97	1	155	241,71	44,61%
01.04.97	-1	391	479,45	28.07.97	-1	966	063,81	27.11.97	861	107,72	34,54%	
02.04.97	-877	008,06	-102,20%	29.07.97	-1	497	632,01	28.11.97	898	750,37	29,00%	
03.04.97	-1	172	470,94	31.07.97	2	152	806,40	01.12.97	-1	590	967,53	-140,02%
04.04.97	-158	207,18	-25,27%	01.08.97	-1	206	561,79	02.12.97	-734	876,97	-48,73%	
07.04.97	107	745,58	13,42%	04.08.97	-2	177	516,31	04.12.97	-1	456	794,70	-318,27%
08.04.97	-259	502,46	-62,16%	05.08.97	-360	369,71	-20,81%	05.12.97	-192	509,64	-22,88%	
10.04.97	451	175,25	42,30%	07.08.97	910	376,04	42,62%	08.12.97	520	375,65	35,74%	
11.04.97	-471	861,07	-162,39%	08.08.97	1	014	681,68	09.12.97	441	862,92	32,48%	
14.04.97	22	961,38	3,74%	11.08.97	716	132,19	25,36%	11.12.97	431	217,13	26,13%	
15.04.97	-489	544,64	-291,86%	12.08.97	-15	495,56	-0,63%	15.12.97	-772	537,46	-107,84%	
16.04.97	451	972,61	55,83%	14.08.97	169	424,65	6,17%	16.12.97	2	725	822,39	68,69%
17.04.97	-408	718,48	-335,28%	15.08.97	-602	309,12	-29,05%	18.12.97	2	753	890,41	56,60%
18.04.97	256	800,40	41,21%	18.08.97	-1	988	401,52	19.12.97	-1	915	610,37	-151,10%
21.04.97	238	695,47	31,53%	19.08.97	-1	021	870,44	22.12.97	-2	450	585,29	-267,35%
22.04.97	1	302	412,74	20.08.97	376	891,19	25,86%	23.12.97	-861	090,68	-57,83%	
24.04.97	-544	468,56	-105,39%	21.08.97	688	304,01	44,03%	25.12.97	401	754,69	24,71%	
25.04.97	-545	810,36	-113,77%	22.08.97	-94	561,81	-8,18%	26.12.97	26	423	307,12	95,16%
28.04.97	343	464,32	26,90%	25.08.97	-800	450,73	-135,29%	29.12.97	27	179	484,96	72,53%
29.04.97	490	632,08	39,30%	26.08.97	1	085	223,14	30.12.97	-21	382	688,21	-2359,32%
				28.08.97	-161	090,42	-14,00%					

Table 8. Difference between the real and expected volume of operations in sub-federal government securities, nominal and percentage presentations

Data	Difference, thousand of roubles	Percent of volume of operations	Data	Difference, thousand of roubles	Percent of volume of operations	Data	Difference, thousand of roubles	Percent of volume of operations
05.01.97	9 497,50	100,00%	30.04.97	2 852 033,50	74,01%	29.08.97	-179 914,46	-15,91%
06.01.97	7 969,75	45,63%	05.05.97	-1 091 902,64	-105,57%	01.09.97	381 669,71	20,39%
09.01.97	2 109 371,27	99,36%	06.05.97	-1 110 967,15	-118,90%	02.09.97	-164 196,10	-13,46%
10.01.97	68 421,81	8,72%	07.05.97	-1 405 662,12	-262,70%	04.09.97	1 927 285,66	57,79%
13.01.97	-791 804,43	-431,94%	08.05.97	132 302,18	13,68%	05.09.97	554 013,91	20,55%
14.01.97	-234 694,84	-29,50%	12.05.97	294 938,85	26,64%	08.09.97	-1 674 967,05	-225,68%
16.01.97	960 600,27	62,03%	13.05.97	1 303 412,17	59,98%	09.09.97	1 331 078,34	37,09%
17.01.97	512 380,68	37,82%	15.05.97	-134 480,41	-10,50%	11.09.97	-803 116,05	-52,17%
20.01.97	-159 254,55	-14,83%	16.05.97	-492 899,42	-47,97%	12.09.97	848 479,69	30,25%
21.01.97	-664 889,43	-100,60%	19.05.97	-780 796,42	-109,49%	15.09.97	-547 406,54	-26,10%
23.01.97	-741 403,33	-257,00%	20.05.97	-192 002,49	-23,55%	16.09.97	-1 038 600,63	-93,68%
24.01.97	-71 460,30	-11,85%	21.05.97	1 009 358,44	54,23%	18.09.97	988 023,10	33,03%
27.01.97	-202 447,05	-64,27%	22.05.97	-56 544,19	-5,27%	19.09.97	1 649 284,11	44,39%
28.01.97	-240 437,96	-148,69%	23.05.97	-50 376,21	-4,20%	22.09.97	-436 957,42	-20,15%
30.01.97	-33 134,81	-10,14%	26.05.97	1 285 616,84	48,26%	23.09.97	1 957 196,17	39,82%
31.01.97	-133 695,50	-99,69%	27.05.97	-338 940,39	-25,94%	25.09.97	923 978,31	20,43%
03.02.97	172 004,68	45,32%	28.05.97	-1 214 829,63	-238,90%	26.09.97	338 165,95	8,04%
04.02.97	162 816,88	36,76%	29.05.97	-899 172,58	-151,43%	29.09.97	-1 818 761,89	-66,62%
06.02.97	1 417 336,11	81,63%	30.05.97	623 129,32	43,69%	30.09.97	-516 932,38	-15,65%
07.02.97	171 035,46	16,70%	02.06.97	211 175,72	20,04%	01.10.97	-2 118 864,11	-163,66%
10.02.97	-299 197,31	-38,93%	03.06.97	224 777,45	17,99%	02.10.97	-756 331,57	-44,85%
11.02.97	-428 017,51	-57,21%	05.06.97	-29 130,32	-2,40%	03.10.97	230 030,47	9,89%
13.02.97	49 064,78	5,48%	06.06.97	356 911,91	23,34%	06.10.97	-1 080 480,03	-157,02%
14.02.97	2 113 272,30	72,43%	09.06.97	-422 209,36	-46,46%	07.10.97	691 163,32	30,62%
17.02.97	-691 113,57	-83,33%	10.06.97	233 934,92	16,12%	09.10.97	2 288 616,43	56,57%
18.02.97	-674 031,87	-77,16%	13.06.97	832 189,38	39,09%	10.10.97	366 601,32	13,59%
19.02.97	-1 045 003,21	-211,05%	16.06.97	-155 374,64	-11,59%	13.10.97	-1 114 957,84	-59,15%
20.02.97	241 619,18	24,80%	17.06.97	3 871,46	0,24%	14.10.97	-2 172 273,77	-308,75%
21.02.97	-425 015,68	-119,38%	19.06.97	-261 112,12	-18,09%	16.10.97	-458 882,27	-35,22%
24.02.97	-571 848,64	-1560,29%	20.06.97	245 298,37	14,25%	17.10.97	3 603 541,37	73,53%
25.02.97	119 195,33	20,73%	23.06.97	299 723,21	15,75%	20.10.97	-1 763 091,53	-326,89%
27.02.97	595 763,98	64,88%	24.06.97	91 220,67	5,12%	21.10.97	-1 155 397,77	-105,78%
28.02.97	-338 127,37	-196,82%	26.06.97	3 561 416,19	66,41%	23.10.97	-984 350,75	-82,50%

5.5 The Siberian Money Market in 1997 in Comparison with the "Ideal Type"

The evaluation of the liquidity level of the regional money market revealed that in 1997 only one sector of the market was suitable for the everyday operations of the regional financial institutions in the course of supporting their liquidity positions - the market for federal government short-term securities. The market for sub-federal securities was developing throughout the year but did not reach a sufficient volume of operations. The regional currency market was illiquid.

Comparing the regional money market as of the end of 1997 with the "ideal type" presented in chapter 3, we can identify some important discrepancies between the two:

1. The direct unsecured market involving participation of the regional financial institutions was underdeveloped, with only rare deals in the form of interbank unsecured loans, and could not act as a sphere for maintaining the liquidity of the regional financial institutions.

2. As for traded instruments, there were only federal and regional government bonds in circulation (the latter were not liquid according to the volume criteria). No CDs, municipal, or corporate bonds, banker's acceptances, interbank loans, or deposits were traded. In this sense, although the choice of instruments was considerably broader than in 1993-1995 (including lombard loans from the BoR), it was very limited compared with developed financial markets. It did not allow

market participants to diversify their portfolios at a low risk level.

3. There were no buffer institutions between the BoR and the rest of the market in the region. There were no institutions with the privilege of having a REPO agreement with the BoR. This meant, firstly, that the regional banking system was less stable than it would be with a buffer institution, and secondly, that the BoR participated in the operations of the regional financial institutions only through lombard loans, which required a long application procedure.

4. Convenient borrowing facilities for money and securities did not exist. Only with the introduction of REPO deals between all dealers in the market would it be possible to borrow money and securities quickly and for a short time.

5.6 Conclusion

Two major changes in the functioning of the regional money market occurred between September 1995 and 1997: the regional gateway to the national government securities market appeared in the region in October 1995; and the BoR started to deal with the regional banks in a position of "lender of last resort" via "lombard" loans. Tests of liquidity for the Siberian money market, as it was in 1997, showed that there was only one liquid sector of the regional money market - the market for federal government bonds. The other three sectors - the currency market, the interbank loans market and the

market for sub-federal bonds were illiquid.

A comparison of the structure of the regional money market in 1997 with the "ideal type" of money market revealed four important differences between the two structures. The two most important were the poor availability of alternatives, in the sense of circulating instruments, for operating in the regional money market and the restricted level of participation of the BoR as a "lender of last resort" in operations in the regional money market.

Chapter 6

The Russian and Siberian Financial Crisis of August 1998

6.1 Introduction

The "major" event of 1998 for the Russian and Siberian financial markets was a refusal to fulfill the government's liabilities in servicing internal and external debt, the 90-days moratorium in servicing the private external debt, and the devaluation of the exchange rate of rouble, announced on 17th August. Kirienko's cabinet had to undertake measures to restructure internal and external debt and to preserve the monetary reserves of the Bank of Russia (BoR) in the situation of overborrowing for the federal budget (see part 6.2.3 for details) and in the presence of strong speculative pressure on rouble. As a result of these measures the Russian and Siberian money markets were nearly destroyed. The markets for federal and sub-federal securities were frozen for restructuring debt. The considerable share of commercial banks' assets was also frozen. On the basis of information disclosed in informal talks with several Siberian bankers, the share of their banks' assets frozen in federal government securities was up to 40%. Considerable resources of some regional banks were invested in sub-federal bonds. As a result of the decrease in banks' liquidity and of high uncertainty about the rouble exchange rate, markets for rouble and dollar interbank loans stopped operating.

Loss of liquidity by commercial banks, coupled with the

serious political crisis and a lack of decisive measures for the stabilisation of the financial system, resulted in a collapse of the national banking system, with refusals to service and return deposits, and restrictions on interbank payments. The only market where the banks operated in September 1998 was again, as in 1992, the organised (through the currency exchanges) interbank currency market. In the Siberian region the only working sector of the regional interbank market was the organised currency market at SICEX.

It was a major financial crisis, in which not just some sectors but the whole financial market was paralysed.

Major economic indicators for the Russian economy in 1998 are presented in Table 4 (p. 138).

6.2 The Russian Financial Crisis of August 1998

6.2.1 The Major Elements of the Crisis

The extraordinary measures which were announced by the Russian government, together with the BoR, in order to prevent the Russian financial system from chaos and the Russian economy from hyperinflation constituted the essence of the crisis. These were (Joint Statement of the Government of Russian Federation and the Bank of Russia, 17 August of 1998):

1. Re-structuring of the internal government debt and temporary cessation of operations in the organised government securities market.
2. Broadening the "currency corridor" and then a refusal by the BoR to support the rouble exchange rate (The Bank of

Russia Statement of 2 September, 1998).

3. Imposing of 90-days moratorium on repayments of the country's external debt.

6.2.2 The Major Consequences of the Crisis for the Russian Money Market

The crisis had severe consequences for the Russian money market and the national banking system. As IMF research reported it: "The consequences of the crisis and of the ensuing de facto devaluation, payment moratorium on private sector external obligations, and unilateral restructuring of the government's domestic currency debt have been severely negative. The exchange rate depreciated sharply and inflation picked up; the output decline accelerated; domestic financial markets and banks were paralyzed; and access to international financial markets was lost" (IMF, 1999: p. 33).

The Currency Market

After the Statement's announcement all operations in this sector of the market were stopped. They began again in September 1998 and, given the high risk and uncertainty of each bank's position, were run only through the currency exchanges on the basis of full pre-payment of deals. From September 1998 the currency market was the main sector of the money market in operation in Russia. In autumn 1998 it was characterised by broad fluctuations of the exchange rate (from 7 to 22 roubles per dollar) and by big volumes of operations (on 15th September it exceeded \$108 million for

one trading session)¹.

Trade at MICEX was organised through the SELT - an order-driven trading system, with prices being set for every deal and an average-weighted price serving as the recorded price for a trading session. From September 1998 this average-weighted price set in the SELT formed the basis for the official exchange rate of the rouble.

Devaluation of the rouble led to a "swelling" of the banks' liabilities in forward contracts denominated in foreign currency. In the literature devoted to the August 1998 crisis, the underdevelopment of the structure of the Russian short-term financial markets and the absence of a market for hedging the risks connected with currency operations were stressed as having been particularly important factors (The Working Centre of Economic Reform by the government of the Russian Federation, 1998: ch. 5; Rosbusinessconsulting Review, 1998).

The Government Securities Market

Instability in the market had manifested itself already by the spring and summer of 1998. By summer 1998 a contradiction had arisen between the issuer and investors, which concerned the time-structure of the internal debt. Under political and economic instability, investors preferred short and more speculative instruments - the GKO's. In order to restructure duration of the debt and under the requirements of the IMF, the Ministry of Finance in July 1998

¹ Source of data is MICEX.

announced a cessation of new issues of GKO's. Shortening expenditures for servicing the debt, the government lowered the level of market liquidity by withdrawing a popular instrument from circulation and left financial institutions - the market participants - only with OFZs for short periods to maturity. Financial institutions had to adjust to operating with a relatively new instrument for liquidity management purposes.

In summer 1998, before 17th August, the re-financing rate ceased to be a landmark for the market and simply followed it (The "Russian Telegraph", 25 July 1998: p.1). In that period the "lombard" rate was the real price indicator for borrowing from the money market.

By their Statement of 17th August 1998, the Russian government and the BoR introduced the following changes in the market in government securities:

1. Market operations with government securities were temporarily stopped till further announcement.
2. Bonds with maturity dates from 17th August 1998 till 31st December 1999 were to be converted into longer bonds with the closest maturity not until 2003.
3. Secondary trade in bonds could not be started until all the necessary formal procedures of conversion had been completed.

The market in government securities did not exist until January of 1999. To support the liquidity of banks and to offer them an alternative instrument for investing resources

not as speculative as currency, the BoR issued in September 1998 short-term (3 months) bonds of the BoR (BOBR'y). The last bonds were redeemed in February 1999. The market in bonds was not very active. Comparative volumes of operations in the currency market and the market in bonds in September - December of 1998 are presented in Fig. 49.

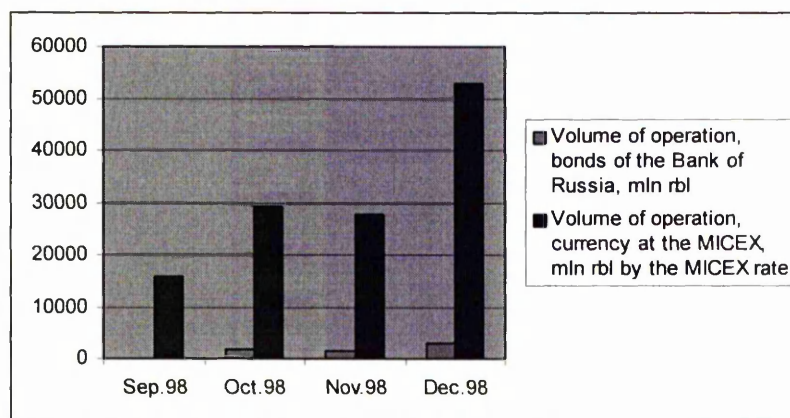


Fig. 49 Comparative volumes of operation in the currency market and in the Bank of Russia's bonds market. Source of data: MICEX.

The Interbank Loans Market

At a time of a sharp decrease in the banks' liquidity, disbelieve in the stability of each other and also high uncertainty in the dynamics of the major price-indicators of the market, the interbank rouble and foreign currency loans markets stopped operating (see Fig. 50). In the words of the IMF, there was the "drying up of activity in the interbank market" (IMF, 1999: p.34).

There were no data on the market from information agencies till August 1999. From the joint balances of the national banking system, published by the BoR, we can

conclude that the total volume of rouble interbank loans in the second half of 1998 came to 50 milliard roubles, and of dollar interbank loans to 159 milliard roubles. All together this was roughly 1\5 of the total volume of interbank loans for the first half of 1998, bearing in mind that July and August (with comparatively "normal" volumes of interbank operation) were included in the figures for the second half of 1998. Corresponding volumes for the first half of 1999 came to 90 and 316 milliard roubles respectively (The Bank of Russia Bulletin, 1999, № 8).

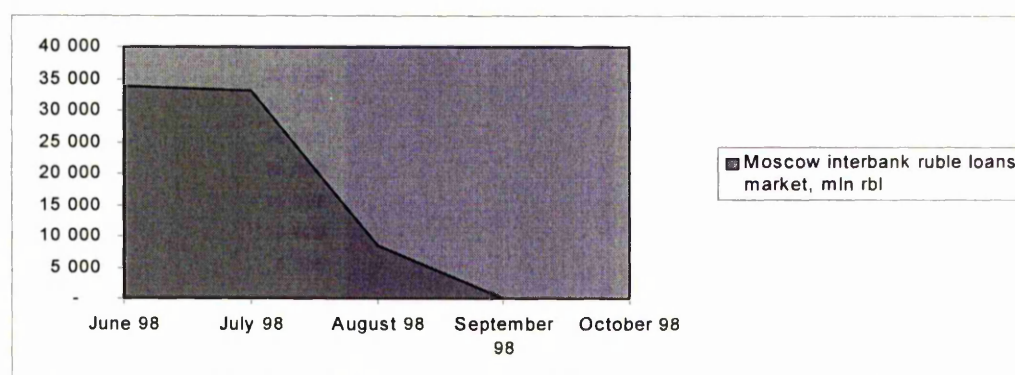


Fig. 50 Moscow interbank rouble loans market. Source of data: AFI information agency.

The Russian Banking System

With the freezing of the government securities market banks suffered extensive losses on their portfolios and considerable liquidity problems. What followed was a real collapse of the national banking system with all the accompanying manifestations: a refusal to service and return deposits, panic withdrawal of banks' deposits, and strong

restrictions on payments to individuals, firms and banks (The Russian Economy Review, 1998; The Bank of Russia Statement of 2nd September 1998).

The measures, announced by the Russian government and the BoR in October 1998 (Joint Statement of the Government of the Russian Federation and the Bank of Russia, October 1998) to stabilise the national banking system, included:

1. Selection of the banks which were to be re-structured under supervision of the Russian Government and the BoR;

2. Setting up the Agency on Re-structuring the Credit Organisations (ARKO) and realisation of the program of re-structuring the Russian banking system;

3. Intensifying procedures for restricting or recall of banking licences;

4. Granting of stabilisation loans to selected banks;

5. Introduction of special stabilisation program for the Sberbank²;

6. Stronger application of bank regulation, especially with respect to the size of the banks' own capital.

However, although the "re-structuring program" set an exact schedule for this re-structuring, its execution was slow and far behind the schedule. As a result, by the end of summer 1999 there had been only a few cases of recalling banks' licences and of approving re-structuring programs for banks (The Bank of Russia Bulletin, 1998-1999; IMF, 1999: p. 34).

² The semi-state bank which keeps the major share of individual deposits.

6.2.3 The Causes of the Crisis

In our opinion, it is possible to divide the causes of the August 1998 financial crisis in Russia into three major groups: macroeconomic, microeconomic, and at the level of the banks (as for the crisis of August 1995 - see part 4.4 of chapter 4).

As for the macroeconomic causes of the crisis, they were as follows.

- Persistent fiscal imbalances in Russia.

As Egor Gaidar stated at the IMF conference: "In the years immediately preceding 1998, tension mounted between the ingrained tendencies toward weak budget constraints and the effort to tighten budgetary policy. In the end, the state failed to cut the level of its obligations or improve revenue collection, and the huge deficits it ran up proved unsustainable" (IMF Survey, February 1999: p. 51). Budget deficit as the biggest economic obstacle to effective perestroika was pointed to in Dyker (1992: p. 180).

The possibility of default in servicing the government debt was discussed in the literature long before the crisis (Gorelov, Nikiforov, Sokolov, 1996; Khakamada, 1997; Zlatkis, 1998). I. Khakamada argued that budget reform, aimed at effective collection of revenues and spending, was required (Khakamada, 1997: p. 24).

This possibility became even more real when the figures for the federal budget for 1998 were published. Expenditures determined by the Budget Law of 1998 for servicing the debt accounted for 124.61 billion roubles or 36% of planned

revenues (including expenditures for servicing government securities at a sum of 72.8 billion roubles or 21% of overall revenues)³. A decrease in tax revenues in the first half of 1998, due to the worsening state of the real sector of the economy, widespread intention to evade tax payments, and the drop in oil prices, considerably aggravated the situation with respect to budget revenues and made the level of expenditure for servicing the debt critical. The Government Declaration on urgent measures for the stabilisation of financial markets and on tax and budget policy was published in June 1998. It was late and it was not adopted because the cabinet, which for the first time had suggested serious and real measures for balancing the budget, was fired in August 1998. As the IMF research put it, "...since August, the fiscal policy stance has been loosened, and implementation of many of the revenue measures, including those aimed at improving tax compliance, and expenditure cuts introduced in the July 1998 anticrisis plan, have stalled" (IMF, 1999: p. 34).

- External factors. These included the drop in oil prices, and consequential decrease in federal budget revenues; currency crises in the south-east Asia and instability in the world financial system, with increasing difficulties in getting international loans; the crises in securities markets in many developing countries and the outflow of the resources of foreign investors (at the beginning of 1998 the share of foreign investors in the government securities market in Russia counted for 30% of the

³ Source of data is the Ministry of Finance.

internal debt) (Malievsky, 1998; Analytical Review of MICEX, July 1998; Joint Statement of the Government of the Russian Federation and the Bank of Russia, October 1998).

- Insufficient international reserves of the Bank of Russia.

Trying to support the rouble exchange rate in August - September 1998 the BoR lost 32% of its international reserves - from 18.41 million roubles in August to 12.50 million roubles in September. It was the lowest level of international reserves in 1998.

As for the microeconomic causes of the crisis, they were linked with the underdevelopment of the money market in Russia. The collapse of the banking system was partly caused by an absence of alternatives to the government securities market. This was discussed in Malievsky (1998) and in Gorelov, Nikiforov, Sokolov (1996). Another cause, connected with the underdevelopment of short-term financial markets in Russia, was an absence of effective markets in derivatives, which would allow banks to hedge their positions in the currency market and the government securities market.

The causes of the crisis at the level of the banks were discussed in Malievsky (1998), the Statement of the BoR (September 1998), and the Analytical Review of Rosbusinessconsulting (December 1998). The Rosbusinessconsulting analysts wrote in the Review: "...it must be acknowledged that a wish to get speculative profits from games in the market has dominated, even when in the last years it was already possible to conduct an active investment

policy in the Russian regions, to intensify work for individual depositors, and to invest resources into the real sector of the economy" (Rosbusinessconsulting, December 1998: p. 1). It is necessary to note that, unlike the serious problem of "borrowing short and lending long" by many banks in 1995, in 1998 there were profitable new businesses in the real economy (in consumer goods and food production, in gasoline and repairing stations, and others), which required short loans.

The Bank of Russia's analysts stressed the large volume of "bad" loans, low level of capitalisation for most banks, strong tangle of the interests of banks and their shareholders, low professionalism of bankers, low level of banks' management, politicisation of thoughts and actions of the top management of some big banks, and use of the resources of the federal and local budgets as the basis of the banks' resources (The Bank of Russia Statement, September 1998).

6.3 The Implications of the Crisis for the Siberian Regional Money Market

The crisis had severe consequences for the Siberian money market and the regional banking system as well.

As for the currency market, after the announcement of the Joint Statement of the Russian government and the Bank of Russia on 17th August, this market stopped operating. Trade started again at SICEX in September 1998. Trade at the Exchange was organised through the electronic trading system

(SLOT) and was characterised by a low level of liquidity (see Fig. 51).

Measures taken in relation to the government securities market at the federal level and the consequences that followed were common to both the national market and its regional parts. Similar changes were observed in the sub-federal securities market.

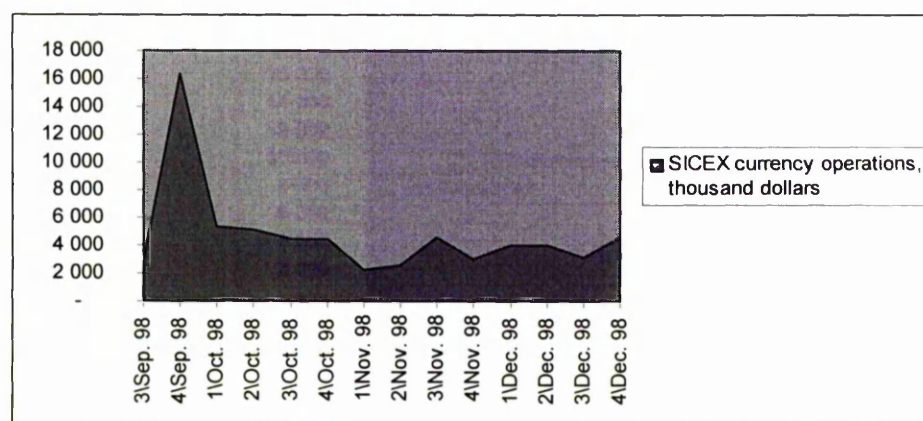


Fig. 51 The SICEX currency operations, weekly data. Source of data: SICEX.

If we look at the regional budget for 1998, the overall expenditures amounted to 3,223,785 thousand roubles, with 546,446 thousand roubles (17%) supposed to go to servicing the regional debt. Fifteen percent (15%) of all revenues were to come from the federal budget⁴. Serious budget problems at the federal level moved to the regional level. Hence, the risk of default for the regional administration was linked, on the one hand, to the coincidence of considerable expenditures for servicing the debt with uncertainty about revenues, and on the other hand, to the possibility of

⁴ Source of data is the Novosibirsk Regional Administration.

default by the federal government. The de facto default of the Novosibirsk regional administration was announced at the end of August 1998. The re-structuring procedure that followed was different from that used by the federal government. All bonds in individual possession were redeemed in time. The secondary market for such bonds operated without a break, but was even less liquid than at the end of 1997 (part 5.4 of chapter 5). For institutional investors all bonds were to be converted into longer bonds. The secondary market for new bonds started operating at the end of 1998, but deals in the market were isolated⁵.

Regional interbank rouble and currency loans market entirely disappeared after the August crisis and there was no sign of this market in the region until the summer of 1999.

Alongside the common characteristics of the banking system as a whole after the crisis, there were the peculiar characteristic of the regional banking systems. Small and middle-sized regional banks were hardly involved in operations with government securities and had no forward contracts with international banks (Rosbusinessconsulting Review, December 1998). Therefore, they suffered less from the 17th August measures than the big Moscow banks. After the crisis they had a chance to attract ex-clients of big "problem-banks" and to offer them normal services. Many Siberian regional banks used that chance and came to occupy a more stable position in the regional financial markets⁶.

⁵ Source of information is SICEX.

⁶ Commercial banks "Accept" and "Levoberezhny" from Novosibirsk are examples.

6.4 Expectations about Developments in the Siberian Money Market in early 1998

In early 1998, following the research design of the thesis, interviews were taken from regional money market participants to find out their expectations about developments in the Siberian money market. In this part of the chapter, the outcomes of those interviews are presented and they are then compared with the actual development of the market.

On pp. 35-37 of chapter 1 the approach taken to the identification of key informants, the levels of management represented in the interviews, and the interview methods were discussed. The main questions used in this round of interviews as well as the details of the interviews, their dates and the types of institution involved, are presented in Appendix 1. One of the questions included in the interviews was the following: "Are you familiar with the functioning of developed money markets?" This question was included to clarify if the participants had some idea of what a developed market would look like.

Table 9 Familiarity of the interview participants with the functioning of developed money markets

Type of institution	Number of "Yes" answers	Number of "Some" answers	Number of "No" answers
Banks	1	3	
Financial companies		2	2
The Centre of Analysis	2		
Sum	3	5	2

There were three alternative categories of answers to the above question:

Yes - I know how these markets work quite well;

Some - I have some idea about these markets;

No - I have only fragmentary information about these markets.

All the answers are presented in Table 9.

As the table shows, most interview participants had only partial information about developed money markets. Most answers reflected the previous experience of the respondents in the Siberian financial market and their expectations were based on that experience, rather than on knowledge about what is usually required for a well functioning market. The two negative answers underscore this fact even more. The table reflects the situation of many Siberian financial companies, which often employ people without a degree in finance or even in economics. Nonetheless, their mathematics or physics diplomas enable them to be good traders in the market.

6.4.1 Expected Developments: Traded Instruments and Types of Trade

The expectations of most of the interview participants concerning traded instruments and types of trade appeared to be similar (Table 10). Answers given represent respondents from all sectors of the regional money market.

The Currency Market

Interview participants predicted two possible changes in the market:

- faster development in the market for currency derivatives,

especially of a forward market. In their opinion, forwards would be more popular in Moscow, where the underlying market is much more liquid than in the region. As one of the interview participants said (Interview 9, Brokerage 4), 99% of hedging services in the currency market were offered by Moscow banks. In his opinion, regional investors and financial institutions could not work with such efficiency;

Table 10. Expectations of developments in sectors and traded instruments in the regional money market in 1998-99

Expectations	Number of positive answers	Average probability of realisation ⁷ , %
Continuation of the market for federal government securities as the main sector of the national and regional money markets	10	100
Expansion of the market for local administrations' securities	6	72.5
Continuation of a segmented regional market for interbank loans with single deals	6	74.2
Appearance and rapid development of national and regional markets for corporate bonds	7	62.1

- increasing importance of the organised currency market (exchange market) as a result of setting up a network of regional payment centres working for the currency exchanges. The organised market would become faster in

⁷ Counted as an average of individual probabilities for every positive answer. Every respondent was asked the probability of his (or her) prognosis.

settlements and, therefore, would be closer to the non-organised (direct) market in the sense of the cost of transactions.

Interview participants stressed that the currency market in early 1998 was regionally confined. With the introduction of a new system of settlements and of a new nationally distributed electronic system for on-line trade, the regional currency market would become a part of the national market. As one of the interview participants commented (Interview 7, Bank 2), if the Siberian settlement centre were to start working as a part of the national payment system, the currency market concentrated in Novosibirsk would have a chance to become part of the nationally organised market.

The Federal Government Securities Market

The organised market in federal government securities (the market for short-term and medium-term federal government bonds - GKO and OFZ), in the view of the interview participants, would form the core of the regional money market within the next few years. One of the interview respondents noticed (Interview 1, Bank 1) that the market in GKO\OFZ looked very similar to NASDAQ. He stressed high the technology of trades and expected that for the near future this market would remain the most developed in Russia. Another respondent thought that some money would always be kept within the government securities market (Interview 3, Exchange 1). He argued that the latest crisis (the crisis of securities markets in developing countries in autumn - winter

1997) had shown that clearly.

The ongoing policy of the Ministry of Finance and the BoR of diminishing the sector's profitability would lead to a situation in which it would become unattractive for speculation and would become a sector for supporting the liquidity of banks and financial companies as the first priority. As one of the interview participants commented on this point (Interview 1, Bank 1), the market for GKO and OFZ would be "dead" in the sense of its speculative component; profitability would stay at a 20-30% annual rate with weak mid-term fluctuations. Within the next few years, no sector of the money market would equal this sector in its level of liquidity and reliability. There was only one sign of doubt among the comments of the interview participants about the reliability of the market. One analyst said (Interview 3, Exchange 1) that the national market in federal securities was too short and expensive and, if it were to be used rationally (referring to the volume of borrowed resources), it would be stable.

The appearance of longer-term securities was anticipated, which would allow the central monetary authorities to loosen dependence on short-term investment and on the necessity of frequent redemption. Another expectation concerned extending the sphere of REPO deals to all dealers in the market. This change would signify a possibility for borrowing money and securities directly within the market, which would be the quickest and most secure way for this sector's operators.

The markets in other government securities - bonds of

internal currency loan and saving bonds - for several reasons were expected to remain in locally contained markets. These instruments over the next few years would remain outside money market operations.

The Sub-Federal Government Securities Market

The interview participants' opinions about this sector of the market varied. One respondent thought that the volume of operations of banks and financial companies in this sector would increase several times during 1998-1999 (Interview 6, Brokerage 3). He argued that financial institutions were attracted to this market by an easier procedure of accreditation, compared to the market for federal securities, and by a higher profitability (which, however, coincided with a higher risk).

In line with the federal securities market, the appearance of medium-term securities with a fixed income was expected in this sector, although interest in them could be less than in federal securities. One of the interview participants commented (Interview 4, Exchange 1), that markets in sub-federal securities would develop in the same direction as the market in federal securities, but that, given the higher risk of investing in sub-federal securities, federal securities would still enjoy higher priority.

In the view of others (Interview 2, Brokerage 1; Interview 7, Bank 2), while local budgets would have a deficit, markets in the securities of local administrations would not rise significantly, because investors in those

markets would incur a double risk of both no-redemption and no transfer from the federal budget to the local budget.

The common view was that this sector of the regional money market would mainly remain locally contained.

The Interbank Loans Market

This sector of the regional money market was expected to keep its importance as a "buffer" sector, although it was not expected to reach the volume and intensity of spring 1995. Intensive development of this sector in 1995 was caused by difficulties encountered by local participants in entering the federal government securities market. For many banks there were no alternatives for managing liquidity other than the interbank loans market. As one of the interview participants commented (Interview 8, Bank 3), in 1996-97 the development of the market was exclusively an evolution away from complete lack of trust between banks and segmentation towards gradual unification. Any serious crisis would halt this process and return the market to the situation which existed in the autumn of 1995.

These expectations were realised, because in fact in 1998-2000 the interbank loans market as a sector of the regional money market did not take the role of one of the major sectors of the market. It played the role of a "buffer"-market and did not reach the importance it had in the spring of 1995, especially in its rouble part.

From 1998 into the near future, no real alternative to the government securities market was expected to exist. This

market became broadly accessible to the region at the end of 1995. The existence of other main sectors of the regional money market and, therefore, the existence of a "buffer" sector would depend mostly on the condition of the economy. Investment in corporate or local administration securities would be justifiable only if the economy were working effectively at an appropriate level. The general condition of the national economy affects the position of banks, and, hence, their confidence in one other.

The market in interbank loans from 1998 into the near future was expected to be primarily the Moscow market. There would be only solitary deals in the regional market. With development of a regional payment system and of the ability to transfer payments quickly to other regions, regional monetary resources, which now leak to Moscow, would stay in the region. This would require a liquid enough market for interbank loans. In the words of one of the interview participants (Interview 10, Bank 4), if an electronic system of payments were to appear in the region the exclusive role of the Moscow banks would reduce. It would become profitable to have deals in the region.

Interview participants did not expect in the immediate future the disappearance of the following two distinct features of the Siberian regional market for interbank loans (compared with the Moscow market):

a) vividly marked seasonal fluctuations, connected with the receipt of centralised resources, through authorised banks, for financing seasonal farm activity and for the

"northern delivery" (delivery of food, fuel, machines, instruments, etc., to the northern territories of Russia in summer time); and

b) an absence in the region of a market for extra-short (1-2 day) loans.

In 1996-97 a multi-level system for re-financing the commercial banks by the BoR came into being. In the opinion of the interview participants (Interview 7, Bank 2; Interview 8, Bank 3; Interview 10, Bank 4), this system would be basically preserved in 1998. This system at the beginning of 1998 included:

- loans from the BoR at the re-financing rate;
- loans through "lombard" auctions; and
- REPO deals.

As for the latter, a broadening of the circle of participants and the introduction of complex schemes were expected. In the opinion of one of the respondents (Interview 8, Bank 3), "lombard" loans would have a chance to succeed because current tax regulation allows the banks to use "lombard" deals with the BoR profitably.

Along with the presently existing possibility of maintaining deposits with the BoR, regional banks in 1998-99 were expected to use alternative methods for managing their liquidity in operations with the BoR. These non-risk operations would narrow the sphere of the direct interbank market.

In early 1998 the regional interbank market was entirely contained and within the region the no-redemption level of

risk segmented it.

The Corporate Bond Market

The common expectation of the interview participants was an appearance in the following two years of a market for corporate bonds at the national and regional levels. In the words of one respondent (Interview 5, Brokerage 2), in the future "securitisation" of loans would take place. Most probably, the market for corporate bonds would start in 1998. Another respondent said that the market for corporate bonds was very promising (Interview 1, Bank 1). It would perfectly suit the goal of directing investment into the real sector.

The reasons for such expectations were clear. Enterprises urgently needed long-term or, at least, medium-term loans. Such investments could not be attracted through the bill programmes of enterprises (bills are short and usually used for settlements, not for accumulating resources), or through bank loans (with the current state of most Russian enterprises, they are too risky). On the other hand, the time for unsecured loans had passed⁸. In the opinion of interview participants (Interview 1, Bank 1; Interview 6, Brokerage 3), development of the market in corporate bonds would require changes in tax-regulation - the rate on bonds should be counted as an expense and not as a profit (for tax purposes). Otherwise, these bonds would not be as attractive to

⁸ There were well-known examples in Russia of "financial pyramids", such as "MMM" or "Germes", when money was collected through selling "securities" (tickets) and then the owners of these "enterprises" disappeared with the money.

investors as tax-exempt government bonds.

Single corporate bonds were already in circulation. For example, the bonds of "Skorostnye magistrali" (High-speed Rail) were issued under guarantee by the Ministry of Finance and were circulating in the trading system together with first-class government securities. In this same system the appearance of bonds of Gazprom and some railroad enterprises was expected.

If the market in corporate bonds were to develop, some bonds would take on a national character.

6.4.2 Expected Developments: Institutional Participants

Interviews clarified several major points regarding expectations in relation to institutional participants in the market.

1. The main group of participants was expected to continue to be the commercial banks. Among them the branches of Moscow banks and of affiliated regional banks would continue to be considerable and would probably even increase. This would result in a growing dependency of regional banks on their Moscow head offices. Interview participants stressed two possible opposite consequences of this process (Interview 3, Exchange 1; Interview 7, Bank 2):

a) Moscow banks had brought to the region higher quality and various kinds of services, including those offered to individuals. This suggested the necessity for managing liquidity at the regional level; therefore, a specified share of resources of the Moscow banks would be

kept in the regional market (and would not flow to Moscow). In addition, by extending their services to regional clients, they would need to offer services in the regional securities markets. Consequently, some of their money would circulate in the regional sectors of the money market;

b) In the view of other participants, additional monetary resources gained from the region would be sent to Moscow, as happened in the cases of profit re-distribution or when a parent bank experienced difficulties. One of the interview participants gave the example of Toko-bank, when the resources of a profitable regional branch were re-distributed to the benefit of the Moscow head-office experiencing difficulties (Interview 1, Bank 1).

2. Financial companies would become more active in the market. This would be evident in the broadening of operations with federal and local government bonds. Previously (in 1996 - 1997) they had been employed to a considerable extent with orders from abroad to buy up shares of Siberian enterprises. In early 1998 they were expanding their operations to the regional population and, therefore, establishing a presence in the regional and national money markets. In the opinion of the interview participants, this tendency would continue into the near future. As one of the respondents noticed (Interview 2, Brokerage 1), a covert process of affiliation with regional companies by Moscow companies was going on. This process, though not so active as among the banks, would probably continue in the future.

3. Large Moscow banks and financial companies had

entered the regional market in sub-federal and municipal bonds. They were seeking diversification and higher profitability, both for themselves and for their non-regional clients. Their presence in the regional market in the future would depend on the balance between risk and income in this market. Primarily it would depend on the state of regional budgets and on the liquidity of the market.

4. New participants which had recently appeared in the market - investment and pension funds, insurance companies, mutual investment funds, and united bank investment funds (similar to mutual funds organised by banks) - would become more active and retain a considerable share of the market. In the words of one of the interview respondents (Interview 4, Exchange 1), insurance companies in the previous years mostly invested in promissory notes; in early 1998 they preferred bond markets. In the future their presence in the regional money market would be considerable.

Among the mutual investment funds the most popular in Russia were several foreign funds (Credit Suisse, Flemington, and others). In the future they were expected to appear in the larger Siberian cities and compete with regional banks and financial companies for the money of the local population.

6.4.3 Expected Developments: Desirable Changes in Regulation Policy

The question about the changes in the common economic and political environment which would be required for the

expected development to be realised produced two types of answers. The first concerned the strategy of regulation and the underlying laws; the second, the tactics of regulation.

The Strategy of Regulation

Concerning the strategy of regulation, two "areas" were emphasised by the interview participants.

One area concerned the underdevelopment of the regulation of Common Funds of Banking Management (CFBM), which are similar to Shared Investment Funds (SIF), both national and international, acting in Russia (Interview 10, Bank 4). CFBMs were initiated by the BoR for the banking system whereas SIFs were introduced by the Federal Commission for Securities Market (FCSM) as a specific type of non-bank financial institution. The SIFs regulations, issued by the FCSM, consisted of about 20 documents, which formed an adequate official environment for these institutions' activity. The BoR issued only a few instructions to regulate the banks' activity in the sphere of trust operations. Some important problems had arisen from a conflict between the traditional and trust operations of banks. Further development of the banks trust operations would depend to a high extent on how detailed and complete the regulation of these operations would be (concerning the division between CFBMs and the main departments of banks, and risk management rules in the funds).

The other area concerned the taxation of operations with financial instruments.

1. Corporate bond development was impeded by the full taxation of operational income and by prohibiting the listing of taxes as costs (Interview 5, Brokerage 2). This prevented bond loans from becoming an alternative to bank loans and delayed development of the corporate bond market.
2. A "taxation" defect was pointed out for the market in government securities (Interview 9, Brokerage 4; Interview 10, Bank 4). Any positive difference between the market price of securities in day-after-day operations was taxable. At the same time, when the banks' portfolios were negatively re-evaluated because of a decrease in market prices, the sum of losses was not factored into the taxation base. When a crisis comes, the BoR issues a short-term instruction to ease the burden on the banks' balances. As the interview participants pointed out, the decision of the Bank of Russia, the Ministry of Finance, and the Government Tax Service to shift the banks' 1977 losses, linked with the crisis in the financial markets, to 1998 was only a partial resolution of this problem.
3. The "taxation" problem, it was argued, was also connected with the markets in some other financial instruments. This related to the futures and options markets (Interview 5, Brokerage 2). The existence of value-added tax on income from these markets operations excluded the very possibility of hedging expected losses in the market of underlying instruments. It stopped the development of derivative markets as well as the markets in the

underlying instruments, most of which were instruments of the money market.

The Tactics of Regulation

Interview participants underlined the new stage of the Bank of Russia's presence in the market since the autumn of 1997 (Interview 4, Exchange 1; Interview 7, Bank 2). New innovations in the market on the part of the BoR were the following:

1. Introduction of a new schedule for granting "lombard" loans - not just for one defined period, but for any period of time from 3 to 30 days as determined, or as defined by the auction or by the interest rate. Due to the fact that the "lombard" rates became dependent upon the re-financing rate of the BoR, and the re-financing rate was changed more often, conditions of "lombard" loans became quite flexible, reflecting fluctuations in the market.
2. Innovations in relation to REPOs consisted in the introduction of two REPO-sessions between the BoR and the primary dealers in the government securities market and in setting more "marketable" rates for REPO-deals (see pp. 147-148 of Chapter 5).
3. Daily announcement of rates for bank deposits with the BoR.

All these innovations had made the presence of the BoR in the market more constant and flexible. The interview

participants pointed out positive and negative aspects of that new presence. On the positive side was the new role of the BoR as a lender of last resort. This guaranteed the liquidity of the money market at a considerably higher level. On the negative side was the flexibility in the Bank's presence - frequent changes of the Banks' family of rates. On the one hand, this signified that the BoR was in the market on an everyday basis, reflecting or regulating its dynamics. On the other hand, short-term and mid-term fluctuations in the market became less predictable and diminished the quality of the financial and investment management of financial institutions.

Those interviewed regarded correction of the above-mentioned inequities and gaps in regulation as a necessary condition for the realisation of their expectations concerning the future development of the market.

6.4.4 Why Did the Interview Participants Overlook the Crisis?

As the results of the interviews showed, the interview participants expected further development of the regional money market, in terms of traded instruments, participants and forms of trade, towards the "ideal type". The only serious barrier to this development they pointed to was the underdevelopment of the market's regulation. No one expected a general financial crisis, connected with financial default by the central authorities. In our view, in early 1998 there were several reasons for this.

1. In January 1998 the federal budget for 1998 had not

been confirmed and published. Although academicians and politicians had discussed the possibility of default long before the actual default (p. 182 of this chapter), financiers and bankers had paid more attention to the dynamics of the market indicators. One of the most important - average-weighted profitability of the government securities market - showed a growing tension in the market only in May 1998 (Fig. 52).

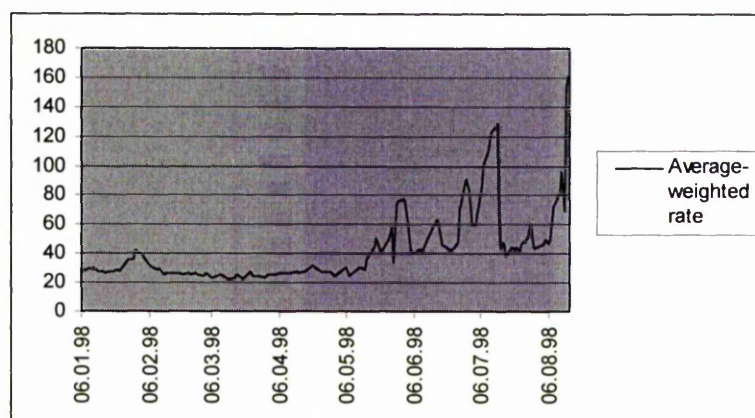


Fig. 52 Average-weighted rate in the government securities market. Source of data: calculated on basis of daily data from SICEX.

2. A firm belief in the Ministry of Finance's solvency, based on the experience of the market's operation in 1993-1997, dominated among the market participants.

3. The interview participants expected fast development in the market for corporate bonds, which would form an alternative to the government securities market and would be comparatively reliable, at least for bonds of the biggest Russian corporations.

6.5 The Underdeveloped Character of the Russian and Siberian Markets as a Factor of the Crisis

From the experience of the August crisis of 1998 in Russia, confirmed by research of the World Bank (The World Bank Report, 1998), there were at least three basic reasons for money market crises, which were common for transitional economies in 1998. These were also three characteristics where the Russian and Siberian money markets in 1998 fell short of the developed money markets and of the "ideal type" of money market. All three characterised a weakness of the Russian banking system.

The first characteristic was linked with asymmetry of information and disclosure of information in relation to a bank's position. The problem of "disclosure of information" in a banking system is not simple. It has several important sides.

1. Information about a bank's clients in receipt of loans is confidential. Hence, it is difficult to judge the clients' solvency and the guarantees of return of the loans. This means that one can evaluate the liquidity of a bank's assets, and, therefore, the liquidity of a bank itself only on a probabilistic basis and on the basis of indirect information. Asymmetry of information in a banking system will always exist, and, together with it, some suddenness in revelation of the non-liquidity of a bank or of a group of banks.

2. Another reason which creates considerable asymmetry of information in a banking system is the unwillingness of

banks and of regulatory bodies to disclose information about the worsening of a bank's position in order to prevent a massive "run" of depositors from the bank and general tension in the banking system. The fairness of this approach towards depositors depends on the existence of a deposit insurance system. Such a system did not exist in Russia in 1998. As a result, problems of the banks became problems of their depositors, without any participation of the BoR or the government. The Russian banking system, without such a "chain of last support", was very unstable and susceptible to crisis. Re-structuring of the banking system in Russia made provision for an increase in its reliability through the setting up of a centralised system of deposit insurance among the other measures (The Bank of Russia Statement, 2nd September 1998).

3. As for the money market itself, its normal work requires more transparency of information for bank-creditors about bank-debtors. This is especially important for the non-organised money market, without the participation of middlemen and the extent to which they guarantee a completion of deals. In the Russian and Siberian money markets in 1998 the banks' balance sheets were published in the newspapers yearly and the BoR published information on the registration of new issues of the banks' securities. However, the balances were presented in aggregate form and were insufficient for the evaluation of a bank's stability and reliability. Such lack of information was partly compensated for by the banks themselves, when they required the previous month's balance

of a counterpart bank before striking a deal.

However, although such balances were presented, there still remained the problem of an asymmetry of information. This was due to the possibility of reporting some operations of a bank (for example, operations with short-term bills) in several different ways in the bank's balance. Besides, short operations allowed a balance to be improved for reporting dates. There were often loans with a low probability of return due to insolvency of borrowers included in the balance, but these loans still formed part of the bank's assets.

Thus, the problem of asymmetry of information for the money market in Russia relates directly to the regulation of interbank operations and the banks' reporting documents. From the one side, more certainty with regard to frequency and the level of aggregation of the published information for the commercial banks is needed. From the other side, improvement in the banking accounting in Russia and further convergence of the Russian and international banking accounting standards are required. The World Bank Report put this even more broadly: "...improvements are needed in information and disclosure at all levels (private sector, national authorities, and international financial institutions)..." (The World Bank, 1998: p.158).

The second characteristic concerned the execution of the lender of last resort functions in the market. The importance of this function in supporting the stability and liquidity of the market has already been stressed in this thesis in

connection with the major stages in the development of the Russian money market. In a situation when distrust between the banks-participants paralyses the market and, together with it, the normal functioning of the whole banking system, it is highly important that a lender of last resort participates in the market's operations and supports the liquidity of the most reliable banks.

This characteristic also has several aspects, which differ with respect to the timing of the exercise of influence in the market. The first aspect is connected with short- and medium term influence and deals with the "lender of last resort" facilities - offering liquidity to the banks in exchange for market instruments. In all the national money markets, discussed in this thesis, the role of "lender of last resort" was played by the national central bank. In Russia by August 1998 a similar system of lending by the BoR to the commercial banks had been formed. But, as with short-term loans for managing the current liquidity of banks, they were accessible only by big banks - primary dealers in the government securities market. As a result of the crisis of August 1998 this system was completely destroyed. Together with the "freezing" of the market for government securities, all operations based on these instruments were frozen - REPO, "lombard" loans, and intra-day loans. When the market started to resume in February 1999, distrust toward the government

and pessimism⁹ with regard to the market in government securities were so high among the commercial banks that more advanced operations based on government securities were not started at that time.

Therefore, the system of short-term lending to commercial banks from the BoR had to be recreated.

The second aspect is linked with the long-term influence of the BoR on the money market and with the granting of stabilisation loans to problem banks that are potentially profitable and socially important. Such loans could be granted by the central bank, a special independent agency or international organisations. Shortly after the crisis the BoR gave stabilisation loans to several big banks. In late autumn 1998 the ARKO was set up. The ARKO started real work with problem banks at the beginning of 1999. This work, to be effective, "...requires a comprehensive and credible plan for financial restructuring that demonstrates to the public that the remaining banks will be solvent, well-capitalized, and will have adequate access to lender of last resort liquidity" (The World Bank, 1998: p.95).

The third characteristic concerned the institutional structure and regulation of the market. As in many countries in the transitional period, liberalisation of relations between economic agents in Russia outstripped the setting up

⁹ Partly this pessimism was associated with that fact that, before starting operations in the market, the banks have to place some of their portfolios, including the paper obtained in the process of "novation" (exchange of restructured securities into longer ones), in the market and to come to an agreement about their market prices.

of the institutions of regulation and supervision of the market agents' activities. As the World Bank research noticed, "the liberalization of domestic financial systems and external capital accounts that took place in the late 1980s and in the 1990s occurred without an adequate strengthening of prudential regulation and supervision, facilitating excessive risk taking by financial institutions on both the liability and asset sides of their balance sheets" (The World Bank, 1998: p. 63).

The primary causes of the crisis of August 1998 in Russia lay not on the side of private financial institutions (as it was in East Asia), but on the side of the government. The latter appeared to be the weakest chain among the institutions of the transitional economy in Russia. As the World Bank Report put it: "...many other currency or twin crises in developing countries, including most recently in Russia, are of the traditional type where excessive public borrowing plays a central role" (The World Bank, 1998: p.125). Ineffective management of the government's debt, inability to make effective the very economy of the state, pushed the development of the general financial crisis.

Everything was also not right with the economy of the commercial banks. Taking too high a risk while acting in the market; granting loans to affiliated structures without serious analysis of their solvency; using clients' resources for risky operations; getting forward contracts, including those with foreign banks, without sufficient security; under-capitalisation - were common place (stories of Incombank,

Tokobank, many regional banks and financial companies proved this). The only excuse for the banks' managers was that fact that the most risky investments of the banks proved to be those in government securities - a "Russian" type of moral hazard, where it seemed that default was impossible in principle.

As for the system of supervision and regulation of the activity of financial institutions and especially commercial banks in Russia, this proved to be highly ineffective. The World Bank Report agreed that "weak regulation and supervision are the most widely recognized sources of vulnerability in developing countries' banking systems" (The World Bank, 1998: p. 139).

6.6 Conclusion

The crisis of August 1998 in Russia was a general financial crisis, the major causes of which were financial insolvency of the state and a weakness of the national banking system. These causes are common for similar crises in transitional economies.

The market participants' expectations of the regional money market's development for 1998-1999, revealed in the course of interviews taken by the author in January 1998, were based mostly on the microeconomic factors of this development and overlooked the possibility of a general financial crisis.

Money market operations ceased at the national and regional levels in August 1998 and started again in September

1998 in two sectors of the market: in the organised interbank currency market and in the market for bonds of the Bank of Russia. The markets in federal and sub-federal bonds stopped operating until 1999. There was no systematic information on interbank loans market at national and regional levels for the second half of 1998.

As a consequence of the crisis of August 1998 the development of the Russian and Siberian money markets was thrown back years. The recovery of the market in 1999 would show if the market's development was still moving towards the "ideal type" of money market, or whether the Russian experience would turn out to be somewhat different from the experience of developed financial markets.

Chapter 7

Post-Crisis Recovery and Future Prospects for the Siberian Money Market

7.1 Introduction

This chapter covers the period from January to July 1999 and gives the story of the post-crisis recovery of the regional money market in its main sectors. It is also intended to clarify whether the August crisis of 1998 seriously changed the direction of development of the Russian and Siberian money markets away from the "ideal-type", or whether that direction was maintained. The chapter also discusses the future prospects for the Siberian money market and explains the reasons for preserving its segmentation from the national money market.

7.2 The Recovery of the Russian Money Market in the First Half of 1999

7.2.1 The Currency Market

Until June 1999 interbank trade by foreign currency was concentrated in 8 currency exchanges. The biggest and most liquid market was that at MICEX. It was also a nationally organised market, because banks from all over the country participated in trading sessions. Trade at MICEX was organised through the System of Electronic Trade (SELT) as an "order-driven" market (see pp. 139, 141 for details). Different instruments were traded, primarily:

USD_tod - US dollar with a settlement on the same day;

USD_tom - US dollar with a settlement on the next working

day;

USD_spt - US dollar with a settlement on the second working day;

DM_tom - German mark with a settlement on the next working day.

The Bank of Russia (BoR) participated in the trading sessions and regulated the exchange rate of the rouble.

Monthly volumes of operations in USD_tod and USD_tom at MICEX are presented in Fig. 53.

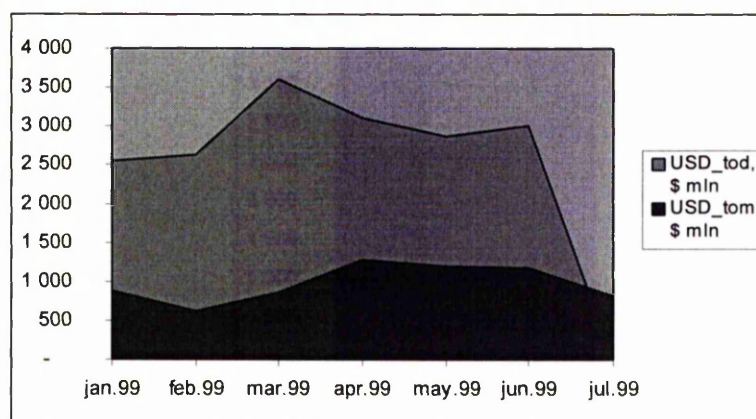


Fig. 53 Monthly volumes of operation at MICEX in USD_tod and USD_tom. Source of data: MICEX.

In the absence of restrictions on the movement of the rouble exchange rate, the currency market became again (as it was before introduction of the "currency corridor" in spring 1995) a sphere for the short-term investing of the banks' resources in foreign currency. Therefore, for 1999, we treat the currency market as a sector of the Russian money market.

At the end of June 1999 the BoR introduced the united trading session in USD_tod for all the currency exchanges (The Bank of Russia Statement, 16th June 1996). This was done to concentrate the BoR's presence in one trading session and

to make easier the process of intervention and regulation of the exchange rate of the rouble. In June and July the volume of the "united" currency market's operations was considerable (see Fig. 54). The most important "player" in this market was the BoR, carrying out the functions of a market maker.

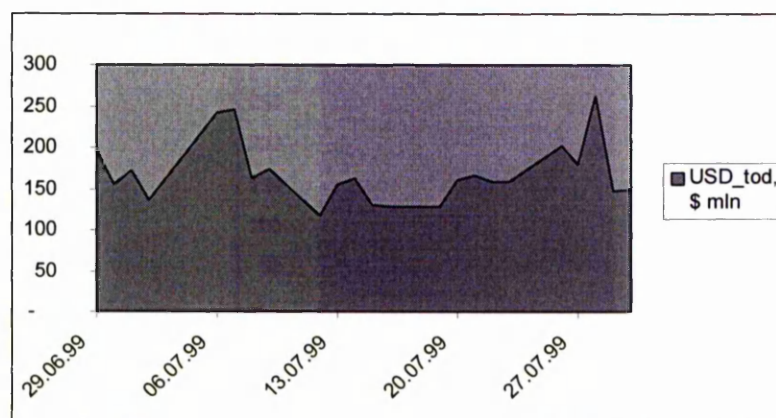


Fig. 54 Daily volumes of operation in the united inter-exchange trading session in USD_tod. Source of data: SICEX.

From June 1999 MICEX has had separate trading sessions in other instruments from the above list, in addition to USD_tod.

7.2.2 The Government Securities Market

There was no active market in government securities in the first half of 1999. Securities with a maturity after 31st December 1999 and those obtained in the process of "novation" (exchange of government securities with maturity before 31st December 1999 into longer securities, which took place from September till December 1998) were in circulation. In addition, bonds of the BoR remained in circulation until February 1999. Volumes of operation in government securities and in the BoR bonds are presented in Fig. 55. The high

volatility of the volumes of operation testifies to the non-liquidity of the market.

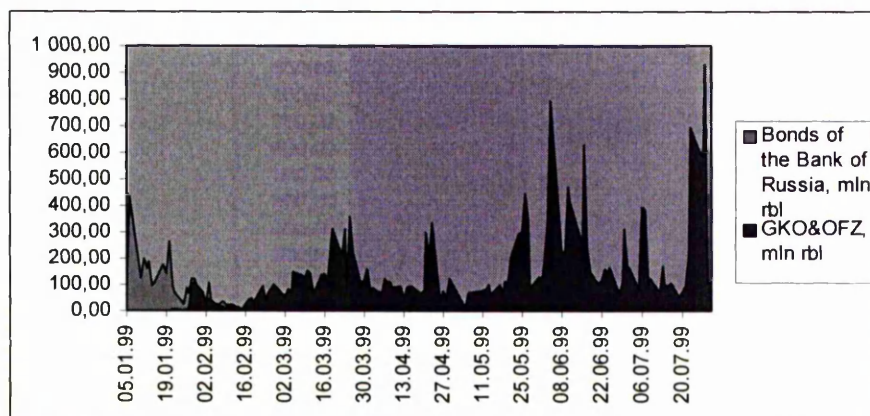


Fig. 55 Daily volumes of operation in government securities and in bonds of the Bank of Russia. Source of data: MICEX.

All other operations based on government securities - REPO, "lombard" loans, intra-day loans - were suspended.

7.2.3 Other Sectors of the Market

As for the interbank loans market, no statistics on it were published by informational agencies in the first half of 1999. The questions about the market addressed to the Siberian participants received the following answer - to manage their current liquidity banks preferred to operate via the exchanges, where after-deals settlements were guaranteed by the exchanges. Therefore, there were two main markets for interbank trade - the currency market and the government securities market, which were organised by the network of the currency exchanges.

In July 1999 MICEX was close to opening a new potential sector of the money market - the market in corporate bonds.

Bonds of two "blue chips" of Russian industry - LUKOIL and Gasprom - were prepared for delivery and circulation in the united trading system of the currency exchanges.

These two bonds were actually issued in summer-autumn 2000 and started circulating at MICEX. The second half of 2000 was a time of intensive placement of new corporate bonds in the organised stock market.

7.3 The Recovery of the Siberian Money Market in the First Half of 1999

7.3.1 The Currency Market

In the Siberian region, interbank trade in foreign currency was concentrated at SICEX. Trade at SICEX was organised through the System of Lot Trade (SLOT) as an "order-driven" market (as at MICEX). Two instruments were traded:

USD_tom - US dollar with a settlement on the next working day;

DM_tom - German mark with a settlement on the next working day.

The BoR participated in trading sessions in US dollars and regulated the exchange rate of the rouble at SICEX. Volumes of monthly operation by USD_tom at SICEX are presented in Fig. 56.

From the end of June 1999 SICEX - and via it the regional banks - took part in the united trading session of the currency exchanges in USD_tod. SICEX's share in the common market was from 1% to 10% of the whole market turnover. The

absolute volumes of trade are presented in Fig. 57.

SICEX also had separate trading sessions in USD_tom and DM_tom, but there were only solitary deals in these markets.

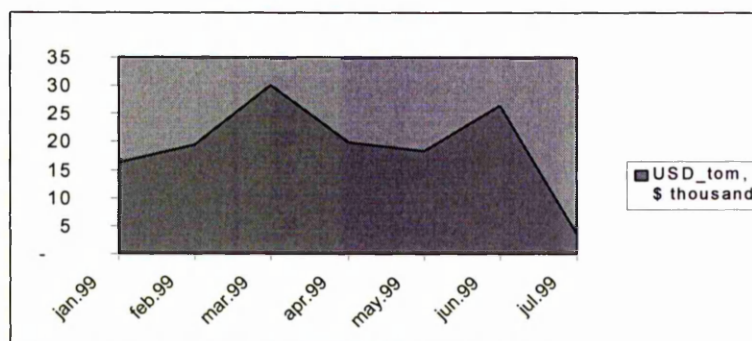


Fig. 56 Monthly volumes of operation in USD_tom at SICEX. Source of data: SICEX.

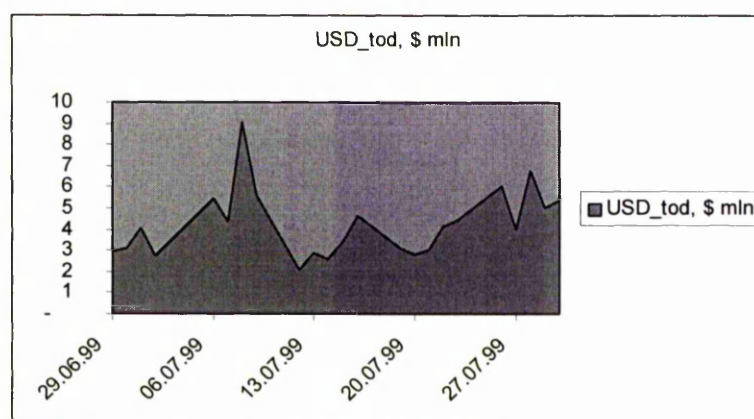


Fig. 57 Daily volume of SICEX-participants' operations in the united inter-exchange currency trading session. Source of data: SICEX.

7.3.2 Other Sectors

Regional banks and financial companies continued to trade in government securities in the united inter-exchange trading system. However, their interest in this sector of the market was lower than in the currency market, in the case of the

commercial banks, and than in some sectors of the stock market, in the case of financial companies. The reasons were a lower probability of speculative profit and a lower interest on the part of clients in this sector of the market, which did not recover after the default. By the end of 2000 interest in this sector of the market had still not returned, although the government had issued new securities at the end of the year.

Regional banks and financial companies were also preparing to trade in corporate bonds in the same united inter-exchange trading system.

As for the "pure" regional sectors of the money market, the market for sub-federal bonds experienced a long period of restructuring. As a first step, "old" bonds were converted into the "new" ones, with a longer period of circulation, and, as a second step, securities in individual possessions were gradually redeemed. The secondary market in "new" bonds in 1999-2000 was nearly empty, with often only single deals settled in days.

There was no information on the regional interbank loans market. There was no trade between the regional banks and the BoR in the form of "lombard" loans in 1999. In 2000 there were single "lombard" loans but no data on the market from information agencies.

7.4 The Regional Money Market in Comparison with the "Ideal Type"

If we draw the structure of the regional money market in

July 1999, it would look as in Fig. 58. If we compare this structure with the "ideal type" of money market, there are several important differences between them and obvious steps back in comparison with the market's structure at the end of 1997 (Fig. 39 on p. 150).

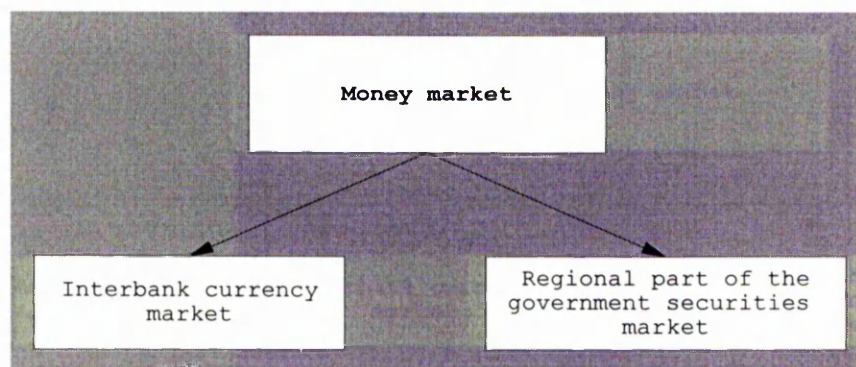


Fig. 58 Structure of the regional money market in July 1999

These differences are:

1. There are no real alternatives to the currency market for the regulation of the current liquidity position of financial institutions - the regional money market's participants (bearing in mind that, in a stable market, foreign currency is not a money market instrument).

2. There is no instrument in the market which could serve as security for borrowing money and as a base for "lender of last resort" facilities.

3. The use of currency as the main instrument of money market operations means that financial institutions, other than commercial banks, have very limited possibilities for operating in the money market.

4. There is no sphere for effective open market operations by the BoR and there are no "lender of last resort" facilities in the market.

5. There is no indicator of the regional money market's activity and of the price level for wholesale money in the region, apart from the exchange rate of the rouble.

The above differences characterise the regional money market as a backward market, the major characteristics of which are simple trade instead of loans and exchange rates instead of interest rates.

7.5 Future Prospects for the Siberian Money Market

7.5.1 Sectors of the Market

Though the currency market currently dominates the other sectors of the regional money market, it is not sufficient for the effective functioning of the money market. It is highly speculative and the possibility of earning a profit from currency operations entirely depends on the administrative measures of the BoR being introduced rather often. Commercial banks and financial companies need more stable sectors as alternatives for the purpose of liquidity management. In our view, the government's or the Bank of Russia's securities markets and (with less probability) the market in corporate bonds would serve as such alternative sectors.

The near future of the government securities market will depend mostly on

- a) how the economy of the state will move to a more effective condition (this refers mostly to dealing with the problem of the huge deficit of the federal budget and managing the internal debt), and, therefore, to what

extent it will be possible to cut government expenditures and reduce the budget deficit;

- b) how the problem of balancing the external debt will be decided;
- c) what the macro-political situation in the country will be in the second half of 1999 and in 2000;
- d) what the government policy towards internal borrowing will be.

In the meantime, the BoR's bonds can circulate. This requires changing the Law of the Central Bank of Russia.

Government or BoR bond markets are the only potential sectors for "lender of last resort" facilities, at least while the corporate bond market is not well developed. The market used for providing "lender of last resort" facilities should be liquid and stable.

The market in corporate bonds needs further development. In our view, the major problem with the development of this market in Russia is the fact that it is initiated by financial institutions and middlemen and not by enterprises issuing bonds. Participation of enterprises and incorporation of the market into the enterprises' flows of financial resources would make this market a potentially viable sector of the money market.

For the market of sub-federal bonds to recover and to become a sector of the regional money market, the same conditions are required as for the market for federal securities (listed above), but at the level of the region. Apart from the effective economy of the regional

administration, which allows servicing debt in full and in time, and an intention by the regional administration to use the bond market as a source of loans, all the other required elements are in place. Potential investors (regional financial institutions and regional branches of the Moscow banks, individuals) and trading and settlement infrastructure already exist in the region.

The interbank loans market has an independent importance among the sectors of a money market when a banking system is characterised by a high level of trust and stability. In Russia and in the Siberian region, without such banking systems, this market will have primarily a "buffer" role, given the existence of at least two active sectors of the money market. Currently, when the currency market is "overheated" and the government securities market is slack, deals in the interbank loans market are irregular and single.

The developments of the regional money market (alternative sectors of the market, presence of the sector for "lender of last resort" facilities, liquidity of the market and, therefore, the different instruments in circulation and the participating institutions) considered are developments towards an effective and stable market. They are the most important elements of the "ideal type" of money market.

7.5.2 The Segmentation of the Siberian Money Market from the National Money Market

The Siberian regional money market will be preserved in

two senses: as a separate regional sectors of the market in its own right; and as the operations of regional firms and individuals, primarily via regional financial institutions, in national trading system.

The main reasons for regional investors to deal in the national markets via regional institutions for regional investors are:

1. The possibility of making personal contact with a trader and of monitoring a trader's activity day by day. In large Moscow institutions with big turnovers and a long list of clients, much less attention is paid to individual clients than in relatively small regional financial institutions. Taking orders from clients (especially from small firms and individuals) in the course of a trading session is usually impossible. Even when it is possible, the reaction to such orders is usually slower because of a long "waiting" list of orders. The same applies to settlement and depository services.

2. Conversations with traders in regional banks and financial companies, which took place at the time of the interviews in January 1998, but not as a formal part of the interviews themselves, revealed that fact that Muscovites and Siberians have different traditions of telephone negotiations. The most interesting conversations were in the Baikal Stock House (Irkutsk) and in Kuzbassocbank (Kemerovo). Siberians were often not very pleased by the "capitalistic" sound of Muscovites - the peculiar Moscow intonation of quick talk, without a personal attitude towards a client.

3. The time needed (2-3 days) to transfer money from Moscow to the region and the relative easiness of regulating money flows in the region.

4. For the regional financial institutions, operating in the national sectors of the money market via Moscow financial institutions is relatively time-consuming and expensive. They are seeking for independent entrance to the market and the technology of trade and settlements developed at SICEX for its clients allows regional financial institutions and their clients to participate directly in trade in the national sectors of the market.

In regard to the market in sub-federal bonds, the reasons preventing the organisation of this market at the national level are the following (they were brought to light by the members of the Supervisory Committee on Regional Debt at common meetings with SICEX personnel):

1. As a rule an issuer is interested in day-by-day control of traded volumes and prices. Such control is weakened if the bonds are circulating on a distant trading floor and a non-regional institution is playing the role of market maker.

2. As a rule, national trading systems are not ready to allocate and to organise secondary trade for instruments in comparatively small amounts (when the whole debt amounts to 100-400 million of roubles). Yet, as a rule, to cover cash gaps in regional budgets, comparatively small amount are needed (100 - 400 million roubles).

3. Many local financial institutions which would be interested in working in separate sectors of the regional money market, would lose this possibility should the market shift to one of central trading floors. They simply could not pass the existing entrance requirements for market participants.

Therefore, in the next several years the regional money market, as a separate sector and as a regional part of the national market (the united currency market and the government securities market, as well as potential markets in the Bank of Russia's and in corporate bonds), will stay segmented from the national money market.

7.6 Conclusion

In the first half of 1999 the national and regional money markets were characterised by limitations in the three compulsory elements of an effectively functioning money market (i.e. in comparison with the "ideal-type" money market). These were: (a) an absence of alternatives to the currency market sectors for conducting the short-term operations of financial institutions; (b) an absence of money and securities lending facilities; (c) an absence of "lender of last resort" facilities in the market. The development of effective national and regional money markets would mean development towards the "ideal type" of money market and current development in relation to the markets in government and corporate securities are movements in that direction. For

several reasons, in the coming years the regional money market concentrated in Novosibirsk will remain segmented from the national money market.

Conclusion

The conclusion gives a generalisation of the findings and results of the thesis. It also lists the questions left unanswered.

1. Major Findings and Results of the Thesis

One of the major findings concerns the formulation of an "ideal type" money market, which is the set of necessary structural elements of a money market if it is to be well functioning. These elements are:

- two major sectors, connected to each other and complementing each other in respect of terms of deals, risk taken by market participants and flexibility of transactions - in effect, secured and unsecured trade in the money market instruments;
- money market instruments fulfilling the requirements of easy secondary trading and low price and default risk, issued by governments, financial institutions and non-financial corporations;
- different financial institutions (including regulatory institutions) and non-financial corporations as the market participants, highly reliable on the supply side of the market and with enough resources on the demand side of the market;
- a group of specialised intermediary institutions, serving as a buffer between a central bank and the rest of the

market participants;

- "lender of last resort" facilities in a secured sector of the market;
- different forms of transactions, including secured and unsecured loans and repurchase agreements;
- an indicator of the market's condition, which is the basic value of short-term money in the economy.

Another finding is connected with estimation of a level of liquidity of the Siberian regional money market as it was at the end of 1997. The regional money market was then at its most developed state during the period 1992-2000. It consisted of three sectors: the federal and sub-federal government securities market and the market for interbank loans. An estimation was done for the first two and also for a complementary sector of the money market, the interbank currency market. This revealed that the only liquid sector of the regional short-term market, appropriate for the everyday operations of regional financial institutions in supporting their liquidity positions, was the market in federal government bonds. This fact testified to the underdevelopment of the regional money market, notwithstanding the several instruments in circulation and the different financial institutions participating in trade.

Comparisons of the actual structure of the regional money market and that of the "ideal type" of money market showed

the main "gaps" in the first. Throughout the period of investigation (1992-1999) these were:

- an absence in 1992-1995, and after the crisis of August 1998, of a secured sector of the money market in the region;
- an absence of a "lender of last resort" in the regional money market during most of the period 1992-1999 and, therefore, an absence of any indication of the "level of support" for the market participants;
- an absence of a "buffer institutions" between the Bank of Russia and the rest of the market participants in the region;
- an insufficient number of money market instruments in circulation in the regional market. This meant that financial institutions other than commercial banks had very limited possibilities for operating in money market;
- an absence of money and security lending facilities in the regional money market.

These gaps remained in 2000.

The above "gaps" were the major microeconomic reasons for the two financial crises in Russian and Siberian money markets, in August 1995 and August 1998. Together with two other factors - asymmetry of information in relation to the state of banks and other financial institutions state, and inadequate regulation of the market - they characterise a weakness of the national and Siberian regional banking

systems which is common to financial markets in transitional economies. Other reasons for the two crises were macroeconomic (the principal one contributing to the general financial crisis of August 1998 being the insolvency of the state) and the low quality of the banks' management.

From analysis of the development of the regional money market, identification of the "gaps" in its structure, and interviews with the market participants, the prospects of the market for the near future were formulated. These were:

1. Recovery and development of the sectors of the market in federal government and Bank of Russia bonds and recreation of the market in corporate bonds. This would then serve as alternative sectors to the organised currency market in the money market operations of the regional financial institutions and as sectors where "lender of last resort" facilities could be formed. These sectors could also form a basis for organising money and securities lending facilities, available to a broad circle of the market participants.

Development of these sectors of the market as nationally organised markets, for use by regional participants as well, is needed at least for three reasons:

- a) Additional stability of the money market. The stability of a market, consisting of one sector is very questionable. To increase the stability of the Russian money market the appearance of a market for trust-based debt instruments is necessary;

b) The government's needs in relation to financing the budget deficit and, therefore, in organising the market for internal debt;

c) Corporations' needs for alternatives to bank loans as sources of short- and middle-term borrowing.

As the development of the market in 2000 has demonstrated, the market in federal government securities remains non-liquid. Systematic borrowing of resources from the market via new placements of one-year bonds started only at the end of 2000. Bonds of the Bank of Russia did not appear in the market in that period. The year 2000 was a record year for the issue of new corporate bonds. Their numbers for 2000 exceeded 50 for MICEX alone, though a secondary market in these bonds hardly existed.

Participation of independent regional banks and financial companies in operations in government and corporate bonds was not considerable.

In 2000 the instrument for fulfilling the functions of a "lender of last resort" existed at neither the national nor the regional levels of the market. The Bank of Russia gave support to the market only through stabilisation loans granted to a few banks.

2. In the more distant future - the recovery of the market in sub-federal securities.

In 2000 only single deals were settled in this market. These were mostly registered when the regional administration redeemed some securities before maturity. New issues of sub-

federal bonds were out of sight. To finance temporary misbalances in the regional budget, loans from "friendly" banks interested in servicing regional financial flows were used.

3. Recovery of the regional interbank loans market as a "buffer" sector between other sectors of the money market. This sector would occupy its developed position as an unsecured sector of the market, which would complement the secured sector of the market in respect of terms, risk and flexibility, only in conditions of a stable regional banking system.

There was no sign of this market developing in the Siberian region in 1999-2000. Even for independent regional banks, which suffered less from the general financial crisis of August 1998 (p. 186), it was too risky to participate in direct interbank markets. Banks diversified their activities using different instruments in the organised market. At the end of 2000 MICEX introduced currency futures and SWAPs. The last combined conversion deals of different terms and was an analogy of forward contracts in direct interbank market.

4. Investment, pension funds and insurance institutions and companies were expected to become more active in the market.

For the participation of these institutions in money market operations a sector with a high level of security needs to exist. Due to the low level of liquidity of the government securities market, in 2000 there was no secured

sector of the market appropriate for these institutions' operations.

For the above prospects to be realised requires some general conditions to be met:

(a) A new quality of the economy of the state, including policy on internal and external borrowing.

As for debt management, by the end of 2000 Russia had agreed a re-structuring and scheduling of debt payments with the London and Paris Clubs. Agreements with the Paris Club required reconsideration of the federal budget for 2001.

Recently, Russia has been blamed for trying to re-structure already re-structured payments instead of paying. Therefore, the situation with respect to debt management in Russia could not be defined as stable and positive. Russia will need several years of irreproachable credit history to convince internal and external creditors of the reliability of Russia as a borrower.

(b) A stable political situation.

The political situation in Russia at the edge of 2000-2001 was stable. In spite of the long war in Chechnya, negativism towards the President for events concerned with the "Kursk" submarine, only moderate progress concerning living conditions for the majority of the population, and an attempt to express a vote of no confidence in the government (initiated by the Communist Party in early 2001), the government and the President dealt seriously with the

economic and social problems of the country and took account of the major political forces and concerns of the population.

(c) A new quality of regulation of the financial institutions' activity.

In particular, this condition involves a new approach to the taxation of activity in the government and corporate bond markets and in the market for derivatives. It also presupposes new requirements for the disclosure of information by financial institutions.

Decisive re-construction of financial companies' obligations in relation to information disclosure and the principles of corporate management was undertaken in 2000 by the new leaders of the Federal Commission on Security Markets. New measures for the control of financial companies' activities in the market via stock exchanges were expected to be introduced. The Bank of Russia took much less stringent position towards information disclosure and the control of commercial banks' activities. It would not be true to say that in the years after the crisis of 1998 the banking system of Russia has become more stable and trustful. The Bank of Russia has operated in the currency market, increasing international reserves and supporting the exchange rate of the rouble. At the same time, "lender of last resort" facilities were not supplied in either sector of the market.

Introduction of changes in the taxation of income from money market operations was postponed due to a wide

consideration of the basic principles of taxation in the country as a whole and the long drawn-out procedure connected with the introduction of the new Tax Charter. This was the main reason for the low activity of the secondary markets in government and corporate bonds and for the delay in the development of the derivatives market.

Therefore, in 2000 the perspectives and conditions for development of the national and regional money markets in Russia outlined above were realised not to any significant extent.

One of the results of the investigation of the thesis was the expectation of a continued segmentation of the Siberian regional money market from the national money market. The main causes of such segmentation were identified as follows:

- requirements for personal day-to-day contacts between regional investors and brokers (dealers) and between all them and the personnel of depository and settlement organisations. Long distance and different time zones make such contacts difficult;
- the longer time required for transfers of money between different regions;
- the relative expensiveness of direct entrance to the national sectors of the money market, via the European financial centres of Russia, for the Siberian regional financial institutions;

- psychological contradictions between participants of the money market from different regions of Russia due to different business cultures.

As for the regional market in sub-federal bonds, under the condition of its revival in the next years, it will stay locally contained for a considerable period of time due to the following main reasons:

- the regional administration will be interested in day-to-day control of primary placing and secondary circulation of bonds, which would be weakened if the bonds were circulating in a distant trading system;
- many local financial institutions would lose the possibility of trading in regional bonds should it move to one of the national trading systems, due to the fact that they might not pass the entrance requirements of those systems for market participants.

Realisation of the above prospects for the Siberian regional money market would mean a movement along a line towards the "ideal type" of money market. A well functioning money market implies the major characteristics of a developed money market (a generalised developed money market is the "ideal type" of money market). These are above all the existence of alternative sectors for money market operations, complementing each other in regards of terms, risk and

flexibility, and "lender of last resort" facilities as a guarantee of the stability of the banking system.

2. The questions left unanswered

The thesis leaves unanswered several important questions connected to the key subject matter of this study. They would require further investigation and might be taken up in the future. They are:

- (a) The reasons for segmentation or unification of the money market in the more distant future.

This relates, first of all, to the sub-federal and municipal bond markets and to the existence of a sufficient number of financial institutions ready to participate in trade and of a sufficient amount of resources available to be invested in bonds. Factors which should be considered in such an investigation would also include the quality of management of regional debt, the creditworthiness of the regional administration as a borrower and the readiness of one or more of financial institutions to act as a market maker.

This question is also linked with the interbank loans market. It can be re-formulated into another question - would the regional sector of this market, especially in relation to short-term loans, be preserved with the development of the technology of trade and settlements? Also, how is the development of this sector correlated to the strengthening of the Bank of Russia's control over the activities of the commercial banks, to the setting up of a system of

information disclosure, to the organising of "lender of last resort" facilities?

Another question which seems interesting here is the possibility of the development of a regional segment of the corporate bond market, for the bonds mostly attractive to local investors, and the conditions which would allow such a market to function.

(b) The interaction between the sectors of a money market and of short-term financial markets.

Investigation of this question should include a study of the interaction between the traditional sectors of a money market and other short-term financial markets - the currency market, derivatives market, market for bonds with longer (than a year) time to maturity. As we have noticed in the course of our research (chapters 2, 4, 5), such interaction depends on the stage of development of the money market, on the national specificities of the formation of the market's structure.

(c) More formal description of a well functioning money market.

In our view, such description must be based not only on a structural analysis of several national cases of a money market, which was done in this thesis, but also on investigation of the mathematical dependences between the parameters of the market itself and the parameters of the market and macroeconomic indicators. For example, what are the relationships between the dynamic profitability of

operations in the government securities market and interest rates in the interbank loans market; or between the dynamics of interest rates in the money market and the volume of resources in correspondent accounts of commercial banks. Such investigation could lead to a strict definition of margin values for the parameters of a well functioning market. However, the Russian money market has not yet provided sufficient information for conducting this kind of research.

(d) Regulation of a well functioning money market.

In the thesis only some aspects of the regulation of financial institutions' activities in the money market have been considered. These were those considered the most important for the recent stages of the market's development. Many questions connected with regulation and formal rules, which might prevent the market and the main groups of its participants from experiencing instability, are beyond the scope of this thesis.

(e) Innovations in regard of money market instruments and institutions and their influence on the "ideal type" of money market.

This thesis left unconsidered the question of financial innovations which could lead to the appearance of new sectors of the market, new forms of trade, new participants and new methods of supporting liquidity and stability in the market. One of the latest innovations in the market is connected with Internet-trading, which has brought about new types of middleman and intensive circulation of financial resources

between national borders. This changes the group of traditional participants in the market and requires a new approach to the regulation of their activities.

Appendix 1

Questions for Interviews Undertaken in a Course of Research

1.1 Questions in the First Round of Interviews (August - September 1995)

1. What resources formed the base for establishing or reforming (for ex-Soviet banks) the Bank?
2. What team formed a core of the Bank under establishing or reforming?
3. Which groups of clients were taken into account under establishing or reforming the Bank?
4. What was supposed to be a specialisation of the Bank under its establishing or reforming?
5. How specialisation of the Bank in 1995 was changed comparatively to notions, which existed under establishing or reforming?
6. To what extent an activity on the money market was the bank's "speciality" in the first half of 1995? In what sectors of the market did the Bank operate? What were the main reasons to operate at the money market (interbank loans' market)? Were there any problems with ensuring an acceptable level of liquidity?
7. What was a major structure of the Bank's assets and liabilities in the first half of 1995?
8. How the regional contours of the money market in its different sectors looked in the first half of 1995: was it secluded market, or was it mostly trade with the Moscow banks, or something else?
9. To what extent closed groups of banks traded to each other did exist in different sectors of the money market in the first half of 1995?

10. What was the influence of the crisis onto the Bank's state?
11. If the Bank's state worsened, due to what common and particular reasons? What potential variants to overcome the crisis were discussed, and which one was taken? What difficulties in realisation of the taken variant did exist in the past and do exist till now?
12. How the Bank's specialisation was changed after the crisis of August 1995? What activities and groups of clients are the majors for the Bank now?
13. Have the regional contours of the money market been changed after the 'August crisis'? Does the Novosibirsk money market exist in any sense now?
14. Was the segmentation of the regional money market changed after the crisis?
15. How would the regional banking system develop in the future? Is a considerable worsening of the regional and national banking systems' state possible, and, if 'yes', due to what reasons?

1.2 Questions in the Second Round of Interviews (January 1998)

1. How do you view the development of the regional money market over the next two years from the points of view of trading instruments, acting institutions, and types of trade?
2. What changes in regulation will be required to allow the expected developments to be realised?
3. Try to evaluate probabilities of realisation of the expected directions in development of the market.
4. Are you familiar with functioning of developed money markets?

1.3 Characteristics of the Second Round's Interviews

Date	Interview number	Type of institution	Status of participant
12 Jan. 1998	Interview 1	Bank 1	Specialist of the stock market department
14 Jan. 1998	Interview 2	Brokerage 1	Trader
15 Jan. 1998	Interview 3	Exchange 1	Analyst
15 Jan. 1998	Interview 4	Exchange 1	Analyst
20 Jan. 1998	Interview 5	Brokerage 2	Analyst
21 Jan. 1998	Interview 6	Brokerage 3	Director
23 Jan. 1998	Interview 7	Bank 2	Vice-president
26 Jan. 1998	Interview 8	Bank 3	Specialist of the stock market department
27 Jan. 1998	Interview 9	Brokerage 4	Analyst
27 Jan. 1998	Interview 10	Bank 4	Specialist of government securities department

Appendix 2

Table 11. Sectors of the national money markets in 1992
roubles

	MICEX, million rbl	Moscow currency direct interbank, million rbl, MICEX rate	Moscow rouble interbank trade, million rbl	Government securities market, million rbl
jan.92	3 755,4	no data	no data	0,0
feb.92	5 844,1	no data	no data	0,0
mar.92	15 108,9	no data	no data	0,0
apr.92	7 169,8	no data	no data	0,0
may.92	12 284,0	no data	no data	0,0
jun.92	38 695,6	no data	no data	0,0
jul.92	36 384,4	no data	no data	0,0
aug.92	44 354,0	no data	no data	0,0
sep.92	102 099,0	no data	no data	0,0
oct.92	144 380,7	no data	no data	0,0
nov.92	150 798,3	no data	no data	0,0
dec.92	187 691,9	no data	no data	0,0
jan.93	203 881,4	no data	no data	0,0
feb.93	295 380,5	no data	no data	0,0
mar.93	299 907,2	no data	no data	0,0
apr.93	438 257,5	no data	no data	0,0
may.93	390 291,7	no data	no data	784,8
jun.93	736 397,0	no data	no data	2 487,5
jul.93	1 389 255,3	no data	no data	5 338,6
aug.93	1 218 723,2	no data	no data	6 397,4
sep.93	2 382 798,6	no data	no data	16 700,7
oct.93	1 485 881,4	no data	no data	26 270,5
nov.93	1 933 682,6	no data	no data	83 093,9
dec.93	2 322 291,3	no data	no data	142 058,9
jan.94	2 992 936,2	no data	no data	150 493,7
feb.94	2 688 510,9	no data	no data	171 557,1
mar.94	2 154 531,4	no data	no data	243 245,1
apr.94	2 082 831,0	no data	no data	418 361,9
may.94	2 105 496,5	no data	170 045,0	635 522,2
jun.94	2 659 352,1	no data	1 317 963,0	1 953 399,5
jul.94	2 953 908,7	no data	1 521 707,0	2 159 184,4
aug.94	7 914 233,5	no data	2 581 416,0	3 600 040,1
sep.94	8 428 352,0	no data	4 136 147,0	3 996 828,4
oct.94	7 635 119,0	no data	4 049 688,0	4 468 866,5
nov.94	5 161 942,2	no data	6 191 475,0	3 932 051,4
dec.94	5 996 444,7	6 111 273,0	6 877 538,0	5 534 044,9
jan.95	10 691 572,8	28 366 097,5	8 629 100,4	7 082 892,9
feb.95	8 091 198,2	27 831 797,0	10 380 663,0	8 830 581,6
mar.95	9 672 633,8	53 170 239,7	12 132 225,0	12 680 919,3
apr.95	15 931 855,8	48 495 339,6	12 883 788,0	12 488 996,6

may.95	16 487 174,4	53 681 458,5	13 883 788,0	19 780 359,6
jun.95	18 164 260,7	69 157 407,6	15 635 350,0	21 752 818,3
jul.95	6 628 733,1	61 520 856,7	17 051 390,0	20 701 803,3
aug.95	7 085 129,5	45 600 992,0	21 334 930,0	25 836 187,2
sep.95	4 834 428,0	13 263 254,4	3 728 590,0	29 226 031,7
oct.95	3 271 889,6	20 933 782,2	5 000 170,0	45 311 096,4
nov.95	3 801 183,5	28 771 401,7	3 563 600,0	54 839 331,2
dec.95	3 708 472,1	26 049 329,3	5 826 080,0	61 076 597,9

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