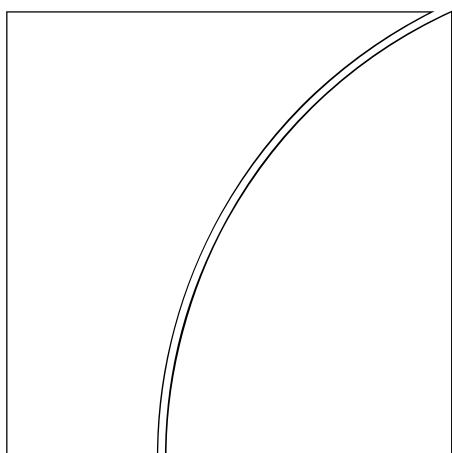


Committee on Payment and Settlement Systems



Payment systems in the Republic of Belarus

Prepared by the National Bank of the Republic of Belarus and the Committee on Payment and Settlement Systems of the central banks of the Group of Ten countries

September 2001



BANK FOR INTERNATIONAL SETTLEMENTS

Copies of publications are available from:

Bank for International Settlements
Information, Press & Library Services
CH-4002 Basel, Switzerland

E-mail: publications@bis.org

Fax: (+41 61) 280 9100 and (+41 61) 280 8100

This publication is available on the BIS website (www.bis.org).

© *Bank for International Settlements 2001. All rights reserved. Brief excerpts may be reproduced or translated provided the source is cited.*

ISBN 92-9131-623-7

Foreword

The Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten countries periodically publishes - under the aegis of the Bank for International Settlements (BIS) - reference works on payment systems in various countries, widely known as Red Books. In December 1993, it published the fourth edition of the Red Book covering the G10 countries, and has since produced yearly statistical updates. The CPSS has also invited the central banks of a number of countries where important developments in payment systems are under way to publish - in collaboration with its Secretariat at the BIS - separate volumes on their respective payment systems. The present volume, the first edition of the Red Book for Belarus, is a further step towards increasing our understanding of the way payment systems work in different countries.

Properly functioning payment systems enhance the stability of the financial system, reduce transaction costs in the economy, promote the efficient use of financial resources, improve financial market liquidity and facilitate the conduct of monetary policy. In recent years, issues relating to the economic efficiency and financial risks of all types of payment systems have come to the fore.

Central banks have a strong interest in promoting safety and improving efficiency in payment systems as part of their overall concern with financial stability. They play a key role in domestic payment system development and, in many cases, operate large-value payment systems. A number of central banks have been influential in improving public understanding of the payment and settlement arrangements in their countries.

We hope this volume will contribute to the general understanding and awareness of payment systems in Belarus, both domestically and internationally.

Tommaso Padoa-Schioppa
Chairman, Committee on
Payment and Settlement Systems
Member of the Board of the
European Central Bank

Petr P Prokopovich
Chairman of the Board
National Bank of the
Republic of Belarus

Table of contents

Introduction	1
1. Institutional aspects	1
1.1 General legal aspects (payment system laws, regulations and rules)	1
1.2 Institutions that provide payment services	3
1.2.1 Banking system	3
1.2.2 Other institutions	3
1.2.3 Additional payment services	3
1.2.4 Postal services	3
1.3 Role of the National Bank of the Republic of Belarus	4
1.3.1 Issuing function	4
1.3.2 Payment system administration	4
1.3.3 Maintaining bank accounts	5
2. Summary information on payment media used by individuals and legal entities	5
2.1 Cash payments	5
2.2 Non-cash payments	5
2.2.1 Overview	5
2.2.2 Credit transfers	6
2.2.3 Debit transfers	6
2.2.4 Cheques	6
2.2.5 Card payments	6
3. Interbank funds transfer and settlement schemes	7
3.1 General overview	7
3.2 Structure, operation and administration of major interbank settlement systems	8
3.2.1 Automated System of Interbank Settlements (ASIS)	8
A. General information and structure	8
B. Rules and participants	8
C. Description of operations	9
C.1 General principles	9
C.2 BISS operations	9
C.2.1 Types of transactions handled	9
C.2.2 BISS settlement procedures	9
C.3. Interbank settlements in the clearing system	10
C.3.1 Types of operations processed	10
C.3.2 Settlement procedures	10
D. Liquidity management mechanisms and risk control	10
D.1 Provision of intraday liquidity for payment settlements	10
D.2 Settlement risk control	10

E.	Transaction processing environment	11
F.	Schedule of processing payment messages (operating hours)	12
G.	Pricing policy	12
3.3	Main projects and policies being implemented	13
A.	General provisions	13
B.	Enhancing payment functions and services of the NBRB	14
C.	Improving liquidity management tools	14
D.	Priorities of developing the BISS as ASIS core component	14
E.	Clearing system development	14
F.	Development of BISC functions and services	15
4.	Special use of interbank transfer systems for international and domestic financial transactions	16
4.1	Exchange and settlement systems for international transactions	16
4.1.1	Cross-border transfer systems in foreign currency	16
4.1.2	Cross-border transfer and forex settlement systems in domestic currency	16
4.1.3	Foreign currency exchange and settlement system for domestic transactions	16
4.2	Securities market	16
4.2.1	Exchange and settlement systems for domestic securities transactions	17
4.2.1.1	General aspects	17
4.2.1.2	Government and NBRB securities settlement system (in 1999)	17
4.2.1.3	Settlement system for other types of securities	17
4.2.1.4	New project for enhancing the securities market infrastructure and securities settlement system	18
5.	Role of the NBRB in interbank settlement systems	18
5.1	Instruments for maintaining liquidity	18
5.2	Main principles of providing bank liquidity for settlement purposes	19
5.3	Monetary policy and the payment system	20
5.4	Supervision of banking institutions and oversight of the payment and settlement system	21
	Statistical tables	23
	Comparative tables	31
	Glossary	53

Introduction

The disintegration of the Soviet Union and the disestablishment of the USSR Gosbank (State Bank - former central bank) brought about a dramatically new situation in the banking sector in all states of the former Soviet Union (FSU). It was necessary to find an answer to the question: What will be the future of the monetary systems in each of the new states?

By the end of 1993, the Soviet-era monetary system had ceased to exist. All FSU states, including the Republic of Belarus (hereinafter referred to as Belarus), developed their own monetary systems governed by the national (central) banks that were set up on the basis of branches of the FSU Gosbank. The National Bank of the Republic of Belarus (NBRB) was established in 1991. Presently, efforts to create a two-tier banking system are under way. On 1 July 1992, the Belarusian rouble (BYB) - the national currency - became legal tender.

Rapid growth of a network of commercial banks and the termination of the Gosbank's accounting system, which had been handling interbank settlements in a reliable way, necessitated the prompt emergence of an effective new national payment system.

Prior to 1993, interbank settlements were effected via banks' correspondent accounts maintained with the regional Main Departments of the NBRB. However, a growing number of branches prevented banks from properly managing their assets. With a view to maintaining banks' current liquidity and ensuring NBRB control over their correspondent account balances, a mechanism whereby interbank settlements were to be effected via a bank's single correspondent account with the NBRB was introduced.

In May 1995, a single settlement time was introduced for interbank payment processing through the state-owned Belarus Interbank Settlement Centre (BISC); the BISC also began supplying banks electronically with correspondent account balance data after each processing and settlement session.

Belarusian banks joined the SWIFT network in 1994.

In 1995, the Board of the NBRB approved the objectives of the Payment System Development and Modernisation Project, namely: adoption of RTGS principles for large-value and urgent interbank payments; reduction of payment document processing time; improvement of payment information integrity and security at all processing stages; better utilisation of banks' resources through obtaining real-time information on correspondent account balances; ensuring irrevocability of payment messages and finality of interbank settlements; and assisting in the dematerialisation of payment flows.

The project provided for the establishment of an automated large-value and urgent payment system of interbank settlements (the Belarus Interbank Settlement System - BISS) designed on RTGS principles as the core of the national payment system.

The payment flow was divided into two parts: large-value and urgent payments processed by the BISS and other (non-urgent) payments processed via the clearing system.

Payments executed electronically via the BISS account for 90% of the total amount.

1. Institutional aspects

1.1 General legal aspects (payment system laws, regulations and rules)

The goal of the current regulatory framework (and possible future amendments) is to ensure that the country's payment systems have a well founded legal basis under all relevant jurisdictions as well as rules and procedures enabling participants to have a clear understanding of the system's impact on each of the financial risks they incur through their participation.

The NBRB is responsible for the management and coordination of the functioning of the national payment system. Pursuant to Article 136 of the Belarusian Constitution, it regulates lending relationships and monetary circulation, determines settlement procedures and has the sole right of money issue.

The Belarusian payment system is governed by a two-tier legislative structure and contract-based relationships.

(a) The first tier includes laws and presidential decrees. The Law on the National Bank of the Republic of Belarus (Article 16) provides that the main functions of the NBRB are, inter alia: arranging interbank settlements and specifying and adopting procedures, forms and rules relating to non-cash settlements in the national economy and penalties for non-compliance.

The role and place of commercial banks in arranging non-cash payments was set forth in the Law on Banks and Banking Activities in the Republic of Belarus (Articles 19 and 21), which states that settlements between banks are executed via correspondent accounts while banks' relations with customers are regulated by bilateral agreements. Customers freely select banks for cash and settlement services.

Recently, on 25 October 2000, the Banking Code of the Republic of Belarus was enacted and it now regulates all aspects of banking activity in the country.

The Law on Electronic Documents of 1999 governs basic requirements for electronic documents and their security, as well as rights, duties and liabilities of participants in legal relations arising in the field of electronic document circulation.

(b) The second tier includes regulatory documents issued by the NBRB under the Banking Code. Interbank non-cash payments (funds transfers) in the national currency are governed by the Rules for Interbank Settlements (no 86, dated 7 August 1998). These rules specify basic provisions and principles for executing interbank payments via the gross and net settlement systems.

General procedures and rules for electronic interbank settlements as well as the functions, powers and liabilities of the participants - the NBRB, BISC, banks and non-banking financial institutions - are laid down in the Regulations for Arranging Operations of the Belarus Interbank Settlements Automated System (hereinafter referred to as the ASIS) no 122, dated 9 November 1998. These instructions determine the format of messages as well as procedures for exchanging messages and technology for executing payments via the ASIS.

Procedures for storing, accounting for and using electronic documents associated with interbank settlements are governed by the Regulations on the Central Archive (an electronic data storage facility), no 93, 1998.

On the basis of these regulations, the NBRB plans to introduce in the near future Rules for Handling Electronic Documents in the Central Archive of Interbank Settlements. These rules will specify procedures for accepting, accounting for, storing, using and deleting electronic documents in the Archive as well as for access to the stored information. The time periods for retention of electronic payment documents in the Archive are defined in the relevant legislation.

Legal relationships arising between the NBRB and commercial banks in making interbank settlements as well as between banks and their customers as part of funds transfers and cash service agreements are governed by the Regulations on Liability for Violating Settlement Operations Rules, no 759, 1996. These regulations stipulate banks' financial liability for delays in executing payment orders and for posting funds to customers' accounts in excess of one business day from the date they are credited to the bank's correspondent account, as well as customer liability for failure to notify the bank within 10 calendar days of receiving an account statement indicating sums entered by mistake into an account.

(c) Contracts and agreements. The main requirement for participation in interbank payments is the establishment of correspondent account relations by banks and non-banking financial institutions with the NBRB, which are governed by bilateral correspondent agreements. The subject of such an agreement is the opening by the NBRB of a correspondent account in the name of a commercial bank or a non-bank financial entity for interbank settlements.

The bilateral contract between the NBRB and the BISC defines tasks and functions, rights and duties of both parties for arrangement and execution of interbank settlements through the ASIS. There are also agreements between the BISC and each participating institution on rendering services with respect to interbank settlements through the ASIS.

In carrying out interbank settlements via the ASIS, the use of encrypted information as well as electronic and digital signatures is governed by the Agreement on the Use of Encryption in the ASIS,

no 1480/D, dated 13 April 1998, concluded between the NBRB, the BISC (as ASIS Operator) and participating banks.

1.2 Institutions that provide payment services

1.2.1 Banking system

The Belarusian banking system consists of the central bank and 27 banking institutions operating 589 branches. The NBRB is involved in some specific payment transactions servicing mainly a limited category of customers, which include cash and settlement services for the Government, Ministry of Finance, State Treasury of the Ministry of Finance and its local bodies, Ministry of Defence, Ministry of the Interior, Committee of State Security, State Committee of Financial Investigations and State Committee of Material Reserves.

The commercial banks, on the other hand, offer their customers a wide range of services, including payment services for individuals and legal entities, and make interbank payments in their own name. Most of them operate in both the retail and wholesale financial markets.

The BISC acts as a payment system operator and interbank transfer data processor. There are also an Interbank Currency and Stock Exchange (ICSE) and a Central Government Securities Depository in Belarus.

1.2.2 Other institutions

The existing Belarusian laws stipulate that maintaining accounts and non-cash funds transfers are the sole areas of banking activity, and that only banking institutions and non-banking financial companies with valid NBRB licences are entitled to offer these payment services. So far, no private sector non-bank entities are involved in the payment services market or in the processing of interbank settlements.

1.2.3 Additional payment services

At present, the commercial banks of Belarus are developing additional services to customers such as remote access to their bank accounts. The major banks are implementing remote banking systems for corporate customers. Banks are promoting informational (representative) internet banking; that is, they provide on their web servers the simplest system of inquiry-and-information services. Currently only two banks have a partially functional level of interactive internet banking. Corporate customers can use the banks' websites for accessing the system. Banks do not yet offer remote account access services to individual customers.

1.2.4 Postal services

Local post offices in Belarus are involved in the following cashing operations (in- and outpayments):

- accepting cash for postal (telegraphic) transfers, including cross-border transfers;
- collecting money for payments in favour of third parties (including communal services payments, payments for natural gas (for household purposes), parking, electricity supplies, baby day-care centres, etc);
- paying out money received via postal (telegraphic) transfers, including cross-border transfers;
- paying out pensions and welfare benefits on behalf of the social security authorities.

Post offices have undertaken credit and debit operations with regard to postal deposits on a trial basis.

In 1999, the post offices of Belarus executed 74,478,000 money transfers (744 per 100 inhabitants), including 453,000 cross-border transfers (four per 100 inhabitants).

Table 1
Postal transactions in 1999

Type of transaction	Volume	
	Total (in thousands)	Per 100 inhabitants
Accepting cash for postal (telegraphic) transfers of which: cross-border postal transfers	4,293 219	43 2
Paying out money received via postal (telegraphic) transfers of which: cross-border transfers	3,960 234	39 2
Collecting money for payments	39,630	396
Paying out pensions and welfare benefits	26,595	266
Total of which: cross-border postal transfers	74,478 453	744 4

1.3 Role of the National Bank of the Republic of Belarus

Section I of the Law on the National Bank of the Republic of Belarus of 1990 provides that the main political and operational objective of the central bank is to ensure the internal and external stability of the country's official monetary unit and to support stable prices.

Other objectives are as follows: to ensure the liquidity, solvency and reliability of a stable monetary (banking) system and to support the overall economic policy of the Government. The central bank attains these objectives by formulating and implementing national monetary policy.

The central bank issues, within its purview, regulatory acts and other directives which are binding on all economic entities, commercial banks and other credit institutions in Belarus, regardless of their form of ownership.

1.3.1 Issuing function

Under the Constitution and the Law on the National Bank of the Republic of Belarus, the central bank has the sole right to issue notes and coins as legal tender. It ensures the printing of banknotes and minting of coins and has the right to issue banknotes of new design, phasing out old notes as they wear out. The central bank manages the supply of banknotes and coins, ie it replaces damaged banknotes and coins, withdraws worn or obsolete banknotes and coins from circulation, destroys them and replaces them with new ones.

The central bank handles physical money through its six regional Main Departments and 23 branches.

1.3.2 Payment system administration

Under Clauses 25 and 26 of the Banking Code, the major objectives and functions of the central bank relate to organisation of the efficient, secure and reliable functioning of the domestic payment system and interbank settlement system. Within the framework of these tasks the central bank supervises the banking system by setting economic norms and reviewing institutions' compliance with such norms, conducting audits and inspections of activities of the banking and non-banking financial institutions, issuing cease and desist orders and directives to eliminate any revealed violations, and imposing other legally binding penalties and sanctions (Clause 34 of the Banking Code).

In the area of payment system development the central bank's responsibilities are defined by Clause 30 of the Banking Code, under which the central bank determines the major directions for enhancing the domestic payment system, defines rules, methods, terms and standards for executing cash and non-cash settlements, and penalties for violating these regulations. It maintains an in-house data archive for storage and processing of statistical information and for providing required legal evidence on events and operations occurring in interbank settlements.

1.3.3 Maintaining bank accounts

The NBRB keeps correspondent accounts of banks participating in the payment system, and offers cash and settlement services to banks. Being a state bank, it maintains state budget accounts (see Section 1.2.1) and provides settlement services to government agencies and organs of state administration. It also offers banking services to foreign governments, central banks and financial institutions, as well as international organisations of which Belarus is a member.

2. Summary information on payment media used by individuals and legal entities

2.1 Cash payments

Cash payment is the main form of settlement used by individuals in Belarus, chiefly in retail trade and the tertiary sector. A large share of wages, pensions and welfare benefits is paid by crediting funds to individuals' current accounts. Though at some large enterprises wages are paid by using "BelCard" plastic cards, cash is still the most popular payment instrument and therefore the bulk of households' income credited to their bank accounts is paid out in cash. Local legislation restricts the use of cash for settlement purposes between legal entities (from January 2000, not more than BYB 110,000 per month, or roughly USD 90 at the banks' exchange rate on 1 January 2001).

The NBRB has the sole right to issue banknotes and coins. It also regulates money circulation. During 2000, banknotes issued in 1992-99 were replaced by new designs in nine denominations (BYB 1, 5, 10, 20, 50, 100, 500, 1,000 and 5,000). In the first quarter of 2001, the NBRB issued a new banknote of BYB 10,000. Coins are not used as payment instruments and are minted in limited numbers for collection purposes only.

As at 1 January 2001, cash in circulation amounted to BYB 238.0 billion, or 37.2% of the M1 monetary aggregate. The share of cash in the total money stock (M2 according to the IMF methodology) has been around 30% during the last five years.

Table 2
Cash in circulation
(at year-end)

	1995	1996	1997	1998	1999	2000
Total (in billions of BYB)	3.8	6.2	12.3	27.1	86.9	238.0
BYB per capita	377.9	619.9	1,229.9	2,707.4	8,690.0	23,888.0
USD per capita	32.0	39.0	39.0	25.0	27.0	28.0
% of GDP	3.2	3.4	3.5	4.1	3.0	2.6
% of M1	37.2	39.5	36.3	33.5	37.2	47.0
% of M2	30.4	29.9	29.3	28.1	30.5	35.8

2.2 Non-cash payments

2.2.1 Overview

Bank customers employ a wide range of payment methods, with credit transfers, which in 1999 accounted for 77.8% of the total number of non-cash payments, prevailing. The share of debit transfers was 19.3%, and that of cheque and bank card payments 2.6% and 0.04% respectively. Credit transfers accounted for 92.5% of the total value of non-cash transactions; debit transfers, 7.09%; cheque payments, 0.213%; and plastic bank cards, 0.003%.

2.2.2 Credit transfers

A credit transfer is the most common method of non-cash payment in Belarus. Upon receiving a customer's payment order, the bank debits the appropriate account and transfers funds to the beneficiary. Individuals and enterprises use credit transfers as a payment instrument for all types of retail and wholesale transactions. Customers may deliver their payment orders in an electronic or paper-based form. In the former case, payment orders are generated, encrypted, transmitted, received and stored by computer.

The NBRB has approved a single standard format of payment order. In making payments through the system for large-value and urgent transfers, sending a paper copy of the original payment order to the beneficiary is not required, whereas in making payments through the clearing system, the originating bank sends to the receiving bank a paper copy of the payment order, which is handed over to the beneficiary.

Regardless of whether the payment is intrabank or is executed in favour of a customer with another bank through one of the settlement systems, funds are credited to the recipient's account on the day they are debited from the payer's account.

2.2.3 Debit transfers

Debit transfers, like credit transfers, are used to pay for goods. A creditor (supplier) makes out a paper-based payment request and presents it to his bank for collection. The bank mails it to the payer's bank. Upon receipt by the payer's bank, the payment request is handed over to the paying customer for acceptance. Where the request is accepted, the payer's bank arranges for payment. Non-accepted payment requests are returned to the supplier. Transfers that do not require the payer's consent for payment are a kind of debit transfer. Such transfers are normally initiated by government authorities as well as courts, which have a statutory right to debit payers' accounts without their consent. This procedure is used to recover outstanding debt to the state budget owed by economic entities as well as funds subject to payment under court ruling.

2.2.4 Cheques

The share of payments by cheque is insignificant in terms of both value and number of payment transactions. The NBRB has developed a uniform cheque format. Cheques are used mostly by individuals to pay for goods and services. In order for a bank to issue such a cheque, the client must first deposit money in a special bank account. The client has no right to transfer funds from such an account or to withdraw cash. Funds deposited guarantee cheque payment. In making payments by cheque, the entity receiving a cheque as payment for goods presents it to its bank, which mails it to the issuing bank. The bank verifies the cheque's validity and makes payment to this entity.

At the present time, due to the insignificant share of cheques in total non-cash payments, there are no plans for replacing the processing of these paper-based documents by paperless technology (truncation).

2.2.5 Card payments

Plastic bank cards were first introduced in Belarus in 1993. There are two types of bank cards currently in use in the country: the cards issued by the national payment system "BelCard" and those issued by international banking associations VISA and MasterCard/Europay. In addition, banks issue their own cards and acquire private bank cards issued by non-resident banks.

Bank cards in circulation are debit cards with or without an account overdraft facility. Credit cards are used on a very limited scale.

Of 27 banks registered in Belarus, 12 issue bank cards.

BelCard, the national payment system using bank cards, was founded in March 1994 on the basis of smartcard (chip card) technology. Its first cards were issued to customers in September 1995. Presently, the use of these cards is restricted to Belarus. BelCard cards in the national currency are issued by 11 banks including the central bank. As at 1 November 2000, there were about 30,000 offline cards in circulation. Cards are accepted by more than 200 sales outlets (including service facilities) equipped with POS terminals. Cash can be withdrawn with BelCard cards from 11 automated

teller machines (ATMs) and more than 80 cash issuing offices. The total volume of BelCard card transactions during the first nine months of 2000 was equivalent to around USD 15 million.

In Belarus, VISA and MasterCard/Europay cards have been in use since 1993. Six Belarusian banks are members of these international banking associations. As at 1 October 2000, they had issued more than 31,000 VISA and MasterCard/Europay cards, including about 3,000 VISA and more than 2,500 MasterCard/Europay cards (which imply the availability of a foreign exchange account), and 26,000 Cirrus/Maestro cards (which imply the availability of a local currency account). Transactions using VISA and MasterCard/Europay cards can be executed both in Belarus and abroad, while transactions using Cirrus/Maestro cards are possible in Belarus only. VISA and MasterCard/Europay cards are accepted as payment media by 800 sales outlets (including service facilities). Cash withdrawals using VISA and MasterCard/Europay cards can be made from 35 ATMs and more than 440 cash issuing offices. The total volume of VISA and MasterCard/Europay transactions with cards issued by banks in Belarus was equivalent to some USD 19 million during the first nine months of 2000.

The NBRB attaches great importance to the development of bank cards. It has developed a methodological framework enabling banks to introduce cards on a wide footing. In the national payment system using BelCard cards, the NBRB acts as a settlement bank. BelCard transaction data are processed by the BISC. In 2001 it is planned to introduce the interbank net clearing and settlement scheme for operations involving use of BelCard cards. In September 1998, the NBRB assumed the functions of a settlement bank of Europay International in transactions with MasterCard/Europay cards in Belarusian roubles among Belarusian banks which are members of Europay International. It is planned for 2001 to establish a national processing centre that would process data related to card transactions. The NBRB experts are keen to foster the introduction of e-money schemes in Belarus and they have started working out a legal and methodological framework that would enable local banks to use this advanced payment instrument.

In 2000, the NBRB adopted a programme for phasing in a non-cash payment system using bank cards in Belarus. Under this programme, 226,500 cards are expected to be issued in 2000-01, which is more than five times the number in circulation on 1 January 2000. The NBRB initiated the establishment in April 2000 of the Card Products Users' Committee, which is made up of NBRB representatives and leading banks handling cards of different payment systems. The Committee has been charged with drafting proposals for improving relations between participants in this sector of the banking services market as well as procedures for their collaboration with government agencies. One of its functions is coordination of activities for developing a non-cash settlements market by means of plastic cards in Belarus. Also, it will act as a technical committee dealing with standardisation of software and hardware used in card-based payment systems.

In addition, there is a developing market for payment cards with a number of different applications. State-owned enterprise "Beltelecom" issues some three million disposable and reloadable phone cards a year (with a total equivalent value of about USD 3 million). The Minsk metro authority issues annually some one million travel cards (with a total equivalent value of about USD 1.3 million). About 250,000 cards are used for obtaining fuel and related goods at filling stations (with annual turnover of about USD 5.0 million).

3. Interbank funds transfer and settlement schemes

3.1 General overview

Market economy developments in Belarus in the early 1990s necessitated major changes in the national payment system. At the time, the system made it possible to transfer funds electronically from payers' accounts to receivers' accounts the same day. However, electronic crediting of a recipient's account was to be confirmed by the original paper-based document mailed by the payer's bank. This procedure substantially slowed down funds turnover and precluded efficient cash management by banks and their account holders. Moreover, the payment system failed to meet modern requirements in terms of reliability and security. As a result, the NBRB decided in May 1995 to develop and upgrade the payment system.

All interbank funds transfers and settlements are executed via the Automated System of Interbank Settlements (ASIS). The ASIS is an integral part of the national payment system that consists of a set

of rules and a complex of computer systems that ensure completion of interbank settlements in order to execute:

- payment orders of a customer of a bank which makes financial settlements with a legal entity or individual holding an account in a different bank; and
- own payment orders of a bank which makes financial settlements with another bank, legal entity or individual holding an account in a different bank.

Interbank settlements between system participants are performed by transmitting electronic payment documents via the telecommunications network and processing them in the computer systems.

3.2 Structure, operation and administration of major interbank settlement systems

3.2.1 Automated System of Interbank Settlements (ASIS)

A. General information and structure

The ASIS currently consists of two subsystems:

- a real-time gross settlement system with a central queuing mechanism and capability to minimise queues through pending payments netting. This system is called the Belarus Interbank Settlement System (BISS); and
- a clearing system for settlements on a net basis with different intervals between clearing sessions during the current banking day.

The ASIS system is operated by the BISC. So far, private sector entities do not participate in the payment services market.

B. Rules and participants

Regulatory acts issued by the NBRB as well as agreements between the NBRB and participating banks, between the NBRB and the BISC and between participating banks and the BISC constitute the legal framework for ASIS operation.

Regulatory acts of the NBRB provide for:

- interbank procedures as well as requirements for banks' access to and participation in the ASIS;
- obligations of the NBRB for arranging and administering the interbank settlement system, and penalties for failing to properly process payment data and to effect interbank settlements accurately and on time with respect to participants' correspondent accounts;
- responsibility of the participants for timely transmission, accuracy and completeness of details of payment messages as well as for timely and proper posting of the received funds to the beneficiary's account;
- responsibility of the BISC as ASIS Operator;
- security measures ensuring ASIS operation;
- measures aimed at minimising financial and technological risks related to ASIS operation; and
- procedures for appropriate use of services ensuring continuous and smooth functioning of the settlement system, including specific procedures such as allocation of intraday liquidity between the subsystems, maintenance of queues, cancellation of electronic settlement documents, etc.

The participants in the ASIS are the NBRB, commercial banks and non-banking credit and financial institutions registered in Belarus. In its Regulations for Arranging Operations of the Belarus Automated System of Interbank Settlements, the NBRB has defined and publicly announced terms and conditions for access, participation and interaction of all participants in the ASIS, as well as conditions which might lead to imposing restrictions, suspensions or even exclusion on a participant in this system.

C. Description of operations

Interbank payment flows are divided between the two subsystems. While time-critical and large-value settlements are executed via the BISS in real time on a gross basis, other payments (non-urgent and low-value) are executed in the clearing system during several clearing sessions on a net basis.

C.1 General principles

The following principles form the basis for ASIS operations:

- settlements are performed via the banks' correspondent accounts maintained with the central bank by using the available balances with no overdraft facility permitted;
- payments are made on a gross basis in the BISS and on a net basis in the clearing system;
- payment orders in the BISS are handled as they arrive, but banks can set priorities (see C.2.2);
- in the BISS, dispatched payment orders are irrevocable and unconditional as soon as they are accepted by the system, while in the clearing system the sending bank may recall its electronic payment items prior to the settlement cutoff time of the current clearing session;
- payment orders not executed at the end of a business day are automatically cancelled by the system;
- once a participating bank's correspondent account transaction is recorded, the payment order is deemed completed; and
- information support enables participants to forecast the status of interbank settlements and to monitor and smoothly transfer the available liquidity from one system to another.

C.2 BISS operations

C.2.1 Types of transactions handled

The BISS is responsible:

- (a) for processing electronic payments pertaining to:
 - operations involving implementation of monetary policy measures of the central bank as well as the servicing of credit, deposit, foreign exchange and other transactions of the central bank;
 - interbank settlements in the government securities and foreign exchange markets;
 - large-value payments (as at 1 October 1999, the amount of a large-value money transfer was fixed as the equivalent of USD 3,400 at the official rate set by the NBRB) and time-critical payments related to the performance of customers' obligations and banks' own obligations;
 - operations related to the use of the mandatory reserve fund in interbank settlements;
- (b) for showing:
 - final net positions in the correspondent accounts of clearing banks at the end of clearing sessions;
 - clearing results of domestic operations with the use of Europay cards; and
 - results of clearing on trading government and NBRB securities.

C.2.2 BISS settlement procedures

Where the paying bank has sufficient funds on its account, settlement of its electronic payments is made on participating banks' correspondent accounts in real time.

If the available correspondent account balances are insufficient, settlements are not effected and electronic payments are queued. Banks have the possibility to manage their queues by setting priorities for processed messages. The queued payments are processed on a priority basis or, in case of similar priorities, on the FIFO principle.

Where a gridlock risk occurs in the BISS, the NBRB is entitled to apply an ad hoc mechanism for minimising the number of queued payments.

C.3. Interbank settlements in the clearing system

C.3.1 Types of operations processed

The clearing system processes “other payments”, ie those that are not urgent or large-value.

C.3.2 Settlement procedures

Interbank settlements for “other types of money transfers” (non-urgent and low-value payments, including settlements for securities trading and settlements for transactions involving the use of plastic bank cards) are effected on a net basis in the clearing system during the day and are completed in the BISS, results being shown on banks’ correspondent accounts.

In settlements based on clearing, individual payments are not entered in the correspondent account. During a clearing session, payment obligations and claims are accumulated with subsequent calculation of net debit (credit) positions.

Based on a system message sent by a bank to the BISS prior to the designated settlement time of the current clearing session, funds on the correspondent account of a clearing system participant are reserved for the purpose of completing settlements. This rule of conducting settlements within the limit of funds reserved by the clearing bank in the clearing system provides for assured timely completion of settlements.

The clearing system processes incoming payment files in the course of the clearing session during which they are received from participants. Payments not settled during the current clearing session due to insufficient funds are included in the list of deferred payments, which are then transferred to the next clearing session for execution (same day payments only) and cancelled by the system at the end of the business day if settlement has not occurred.

Upon completion of a clearing session, the BISC calculates, on the basis of each electronic payment document, net debit (credit) positions of each participant by netting claims and obligations.

Once net debit (credit) positions of the participants are shown on their correspondent accounts, interbank settlement of payments effected through the clearing system is deemed final.

D. Liquidity management mechanisms and risk control

D.1 Provision of intraday liquidity for payment settlements

In order to assure smooth and continuous interbank settlements and to maintain current liquidity of the banking system, various sources of intraday liquidity are used. They cover the interbank short-term money market as well as lombard credits extended by the NBRB (including overnight credits), repos and swaps.

In interbank settlements, the required reserves fund may also be used, in addition to the above-mentioned sources of intraday liquidity, free of charge and without any collateral within prescribed limits.

Banks participating in the ASIS determine the necessity and amount of money from the required reserves fund to be used for settlements (within prescribed norms). They repay the money used from the mandatory reserves fund on their own.

D.2 Settlement risk control

In order to prevent and control settlement risks, the NBRB has taken the following measures:

- settlements in the clearing system are effected using the amounts reserved;
- a mechanism has been put in place for minimising the queue in the BISS, based on netting which makes it possible to settle payments when there are insufficient balances on correspondent accounts; and
- where parent banks experience a computer failure, settlements are carried out in a backup (standby) mode.

Realising the importance of secure and effective functioning of the payment system and its impact on the monetary system of the country, the NBRB continuously monitors and manages the interbank settlement system.

E. Transaction processing environment

The ASIS technical infrastructure consists of three basic components:

- the central processing complex (CPC);
- the message delivery system (MDS); and
- the interbank telecommunications network (ITN).

The main functions of the CPC are to control and process electronic payment documents sent by participating banks. It also generates all outgoing documents and performs all information tasks relating to interbank settlements. At present, major CPC system hardware comprises two IBM 9672 R14 mainframe computers.

MDS “Telebank” is a message communication medium for the ASIS ensuring transmission of: electronic payment documents for executing settlements in the BISS; payment message files for the clearing system from the participating banks to the BISC for processing; data processing results from the BISC to banks; and non-formalised service information exchanged between banks and between the BISC and banks. The MDS includes bank-user interfaces as well as a central processor. Information protection measures incorporated into the ASIS security system are an integral part of the MDS.

The ITN established and operated by the BISC is a distributed multiprotocol corporate network ensuring interaction of banking establishments across Belarus via the central switching unit of the BISC, in Minsk, and regional switching units in all regional centres. Apart from its basic function, ie to offer secure information transmission services to payment system participants, the ITN offers the following services:

- an option to link to the SWIFT network via the Shared Destinations Centre;
- access to the information and reference system “Bank”;
- an option to access the X.25 international network (SPRINT);
- access to the non-cash payment system BelCard;
- access to the Belarusian Currency and Stock Exchange (BCSE);
- setting up banks’ virtual subnetworks for intrabank exchanges via the ITN, etc;
- access to the internet;
- secure transmission of securities market information; and
- transmission of Ministry of Finance information.

In order to perform settlements in the BISS and clearing system, the ASIS includes the following main functional capabilities:

- control and management by the NBRB of its own payments;
- generation, reception and transmission of electronic payment documents and system messages and authentication thereof;
- maintenance of files of electronic messages generated in the ASIS;
- subsystems of participating banks, composed of:
 - interfaces providing for information exchanges between automated banking systems of the participants and the ASIS;
 - participants’ payment management subsystems; and
 - automated workstations in the ASIS (“Telebank” subsystem for those participants whose automated banking systems do not have information interaction with the ASIS).

In addition to the functional subsystems, the ASIS also includes a number of technological subsystems:

- subsystems for administration and control by the BISC; and
- a security system.

Interacting with the ASIS are:

- the participant's automated system (which maintains accounting records in banks and generates electronic payment documents); and
- the NBRB's automated bank system for accounting and operational activities (which keeps accounting records and generates electronic payment documents).

Taken as a whole, the functional and technological subsystems of the ASIS make up a single software and hardware complex which provides comprehensive solutions for interbank settlements in the national payment system.

The system is aimed at ensuring a high degree of security and operational reliability and has contingency arrangements for timely completion of daily processing.

The secure functioning of the system is ensured by:

- (a) protecting information confidentiality by:
 - (1) restricting the rights of access to payment processing systems;
 - (2) authentication of digital signatures and integrity control of payment messages;
- (b) monitoring performance of operations;
- (c) immediate reporting to the system controllers of attempts at non-authorized access.

Measures to ensure the reliable functioning of the system include:

- (a) hardware and software backup;
 - (1) user workstation available for backup input of information;
 - (2) contingency plan for business continuity and recovery procedures;
- (b) data storage and warehousing.

F. Schedule of processing payment messages (operating hours)

BISS operating hours

The BISS starts operations at 8 am and closes down at 7.30 pm. The system does not function on weekends and national holidays.

The operating procedure is as follows:

- system start-up;
- business day opening (8 am - 8.30 am);
- operating hours (8.30 am - 5 pm);
- settlement window (5 pm - 7.30 pm);
- business day closing (7.30 pm).

During operating hours all types of payments are received and processed by the system. The "settlement window" submode is designed for trading interbank funds as well as for settlement of participants' liabilities to the NBRB and the Treasury. In this submode, all customers' payments (type 100 messages) queuing for resources are cancelled.

G. Pricing policy

As regards settlement services, the NBRB does not charge commercial banks either for opening and holding correspondent accounts or for debit/credit entries on these accounts showing final settlements

between participating banks. The NBRB does not pay any interest on banks' correspondent account balances. However, banks have to pay a small entry fee to be admitted to the BISS.

Fees for services offered by the BISC to bank participants in the ASIS for automated processing of electronic payment documents, information and other services relating to its principal functions are set by the BISC with a view to recovering its operational and other material costs in full.

As at 1 March 2001, costs of processing an electronic payment document in the BISS were as follows:

- for urgent payments - BYB 483 (plus 20% VAT); and
- for large-value payments - BYB 167 (plus 20% VAT).

In the clearing system, the BISC charges BYB 83 (plus 20% VAT) for one payment message. Depending upon the time of message input, differentiating fee coefficients are used in this system ranging from 0.4 (first run) to 1.3 (last run).

The pricing policy pursued by the BISC in agreement with the NBRB is aimed at satisfying the demands of its users and increasing economic efficiency overall, and in particular at providing incentives for wider use of new payment instruments.

3.3 Main projects and policies being implemented

A. General provisions

At present, the following main projects for national payment system development have either been planned for implementation or are being realised:

- perfecting NBRB mechanisms for banking system liquidity management, including automated control of short-term lending and collateral schemes using government securities;
- decreasing paper-based document turnover and increasing electronic document turnover in the national payment system through expanding applications where electronic payment documents are used and shifting to paperless technology;
- setting up an ASIS electronic document archiving system;
- setting up a certification system for all software and hardware components of the national payment system;
- enhancing the reliability of technical systems and the safety of the functioning of the national payment system, including measures aimed at establishing backup technical systems. Setting up an information and statistical database for analysing performance characteristics of the national payment system's components;
- streamlining the organisational and functional infrastructure of the national payment system and methods of controlling it by the NBRB;
- increasing BISS traffic capacity by implementing organisational and technical measures;
- increasing the share of non-cash funds transfers in domestic payment traffic, extending the use of plastic bank cards;
- introducing a settlement system for securities transactions on the basis of the "delivery versus payment" principle;
- introducing a settlement system for foreign exchange transactions at the BCSE based on the "payment versus payment" principle;
- developing the international foreign exchange settlement system with a view to prospective integration of the domestic payment system with that of the Russian Federation, other CIS countries and the European Union by means of harmonising basic legal, operational and technological parameters;
- developing a standardised interface (on the basis of a standard electronic document) for exchanging payment and information messages between the subsystems of the domestic payment system, including the BISS, as the core element of the ASIS, and external subsystems (clearing, interbank plastic cards and securities settlements, etc); and

- dividing electronic document flows in the ASIS into two parts: payment (financial) items and information messages (requests, statements, confirmations, notifications, reports, etc related to payments and settlements). Setting up an automated information service in the BISC to reply to customer inquiries on all the ASIS components.

B. *Enhancing payment functions and services of the NBRB*

In order to perform its duties, the NBRB will be improving the following operations:

- fulfilment of functions of a settlement bank with respect to all settlement systems, including servicing of foreign exchange and securities markets;
- fulfilment of all the functions pertaining to BISS management for the purpose of risk control; and
- establishment within the BISS of a functional system for executing cross-border foreign exchange settlements through foreign central banks. This system is expected to operate in parallel with the existing SWIFT network or other available international networks designed for exchanging financial messages. The introduction of this mechanism will offer commercial banks additional advantages with the NBRB guaranteeing the execution of international settlements. Commercial banks will be able to select the appropriate international settlement mechanism at their own discretion.

C. *Improving liquidity management tools*

Commercial banks will be provided with additional liquidity for payment purposes through the **development of the interbank short-term credit market** with regard to the following priorities:

- introduction into the BISC's information system of facilities for exchanging trading terms, confirmations and guarantees on the basis of standard electronic messages; and
- expansion of banks' capacity to manage payment flows by increasing the efficiency of transactions involving monetary resources on the financial markets.

D. *Priorities of developing the BISS as ASIS core component*

In order to reduce risks and accelerate the settlement process, the following measures have been scheduled for implementation:

- to provide intraday liquidity at minimum costs; and
- to improve the mechanism for minimising the number of queued payment items.

E. *Clearing system development*

Improvement of the clearing system will be aiming at the implementation of the Core Principles¹ with the NBRB retaining the function of settlement bank.

To minimise risks in settlements on a net basis and to ensure completion of the interbank settlement, the main principle at the first stage should be that clearing is only possible if the debit netting position does not exceed the amount reserved by the participating bank for clearing purposes.

Clearing system efficiency will be enhanced through:

- the introduction of mechanisms designed to manage financial risks of the participants, including control over the maximum allowed debit position. The clearing system is also expected to control utilisation of credit lines envisaged by the participants with respect to other settlement participants; and

¹ *Core Principles for Systemically Important Payment Systems*, Committee on Payment and Settlement Systems, January 2001.

- the setting-up of backup and reserve technical systems and procedures for ensuring completion of daily settlements in emergencies.

The clearing system will be upgraded by introducing modern netting methods, including combined usage of bilateral and multilateral netting algorithms, thereby substantially reducing banks' liquidity needs.

Format standards for electronic payment messages in the clearing system ought to be harmonised with those in the BISS.

Input of messages and their processing in the clearing system will be completely separate from payments in the BISS. However, harmonisation of all the standards concerning payment message interchange and processing must provide, if required (in emergencies), the possibility to temporarily process payment flows by the second system.

In order to minimise settlement risks, reduce transactions costs and accelerate settlements in foreign exchange in Belarus, an automated system for foreign exchange settlements via banks' correspondent accounts with the NBRB is being developed.

At present, foreign exchange transfers between Belarusian banks are executed via correspondent accounts they have opened with each other, as well as via correspondent accounts opened by authorised Belarusian banks with non-resident banks.

The settlement system which is being developed will not be the only channel for foreign exchange transfers between Belarusian banks. They will be able to make foreign exchange transfers using any of the above-mentioned methods at their own discretion.

F. Development of BISC functions and services

Since the BISC is the only centre for processing interbank payment information in Belarus (the ASIS Operator), its software, hardware and functional complexes must be developed with a view to raising system efficiency, working capacity and reliability. In order to assure better control of system operator risks, it is envisaged to set up additional backup and standby technical systems and procedures to make it possible to complete daily settlements in case of emergency.

BISC services will be developed in order to:

- continuously modernise clearing system capabilities to assure:
 - real-time receipt and processing of payment messages, requests and operating instructions of the participating banks;
 - introduction of a new mechanism for bilateral clearing;
 - separation of the clearing system from other subsystems and functions as well as assurance of its interaction with the related subsystems (BISS, budget payments, banks' centralised General Ledger processing, etc) via a communication and application interface;
 - changeover to electronic payment documents;
 - introduction of an internal audit system and a system for automatic cross-checking and cross-reconciliation of clearing results;
- ensure a shift from the current SWIFT user interface (ST 400) to a new generation of interfaces with multiple access to the SWIFT network; and
- ensure the development and introduction of a set of measures for meeting all the requirements of securities market participants regarding transmission and timely delivery of information on domestic securities trading to all market participants.

4. Special use of interbank transfer systems for international and domestic financial transactions

4.1 Exchange and settlement systems for international transactions

4.1.1 *Cross-border transfer systems in foreign currency*

Cross-border transactions in foreign currencies are executed via correspondent accounts maintained by authorised Belarusian banks with correspondent (resident and non-resident) banks and vice versa. Authorised banks are institutions possessing the NBRB's general licence authorising operations in foreign currencies. At present, 26 out of 27 Belarusian banks have been issued with such a licence.

Procedures for carrying out cross-border transactions in both local and foreign currencies are governed by settlement agreements between the NBRB and central banks of foreign states, by the NBRB's regulations and by correspondent account agreements between the authorised banks and their correspondent banks.

Cross-border transactions in foreign currencies are executed by debiting correspondent accounts in conformity with payment orders of the account holders. Payment orders are communicated between banks by telex, via the SWIFT network or by mail.

4.1.2 *Cross-border transfer and forex settlement systems in domestic currency*

Cross-border transactions in the Belarusian domestic currency are carried out through correspondent accounts of non-resident banks opened with the authorised banks. In carrying out such transactions, correspondent accounts of non-resident banks are debited by the authorised banks in local currency in accordance with payment orders of non-resident banks. Payment orders and other messages relating to funds transfers via correspondent accounts are sent by non-resident and authorised banks through SWIFT, telex, e-mail, or by other transmission means or mail. In Belarus, 20 out of 26 authorised banks are SWIFT members.

Where, in cross-border transactions, local currency funds are to be transferred from the correspondent account of a non-resident bank held with an authorised Belarusian bank to an account held with any other authorised bank, such funds are transferred by the authorised bank through the BISS or through the clearing system on a net basis.

For settling foreign exchange trades on the BCSE, funds in Belarusian roubles are transferred by the authorised banks mainly through the BISS.

4.1.3 *Foreign currency exchange and settlement system for domestic transactions*

At present, interbank domestic transfers of foreign exchange are executed via correspondent accounts opened by Belarusian banks with each other as well as via correspondent accounts of the authorised Belarusian banks opened with non-resident banks.

In order to minimise settlement risks, reduce transaction costs and accelerate foreign exchange settlements in Belarus, an electronic system for foreign exchange settlements through the banks' correspondent accounts with the NBRB is being developed.

This system will not be the only channel for foreign exchange transfers between Belarusian banks - they will be able to make such transfers using any of the above-mentioned methods at their own discretion.

4.2 Securities market

The government securities market in Belarus is represented by short-term treasury bills (so-called GKO) and long-term treasury bonds with coupon yield (GDO) as well as by securities issued by the NBRB itself. In accordance with the national Law on the State Budget for 1999, issuance of government securities was used to mobilise resources totalling BYB 51.3 billion. Out of this total amount, BYB 21.0 billion was allocated for financing the budget deficit.

Operations with government securities are still the major tools of the central bank for adjusting the money stock in circulation. Secondary market operations with securities are used for supporting intraday liquidity of banks at the level required for a smooth and timely flow of payments originated by economic entities and the discharge of banks' obligations on behalf of their customers.

The NBRB, in cooperation with the relevant public agencies, is creating conditions favourable to quantitative growth of securities issued by banks (shares, deposit and savings certificates, bank bills) as well as to expansion of the range of operations conducted by banks on the securities market. Due to these efforts, banks' shares and certificates in 1999 saw growing issuance volumes. During 1999 banks raised 20 times more funds through sales of deposit and savings certificates.

In the domestic equity market in 1999, bank stocks occupied a predominant position.

4.2.1 Exchange and settlement systems for domestic securities transactions

4.2.1.1 General aspects

Rules for conducting securities transactions and procedures for the functioning of the securities settlement and clearing system as well as for trading are governed by individual regulations issued by the NBRB.

At a set time, ASIS participants reserve funds on their correspondent accounts. Information on the amount of prescribed funds reserved on the correspondent account of each participant is transmitted by the BISS to the BCSE in accordance with the rules of procedure.

Upon completion of a securities trading session, the NBRB, on the basis of results of securities clearing at the BCSE, makes debit/credit entries on the participating banks' accounts and authorises participants to cancel the preset reserve.

4.2.1.2 Government and NBRB securities settlement system (in 1999)

The principal institutional components of the securities settlement system are: the NBRB, which carries out primary placement of securities, settlements for primary placement and redemption, and funds settlements following securities trading at the BCSE; the Central Depository of the NBRB, which keeps securities in custody, executes securities settlements following trading at the BCSE, transfers securities between depositories and maintains primary issuers' securities accounts (called "depo" accounts); and the BCSE, which arranges for securities trading, clearing and settlement of net positions of trading participants.

The underlying principle of the government securities trading settlement mechanism consists in trading participants depositing, prior to making transactions, money funds and securities on the BCSE correspondent account with the NBRB and on the BCSE's securities ("depo") account in the Central Depository of the NBRB.

Settlements in the Central Depository are executed on the basis of electronic instructions within the performance period T + 0 (meaning actually on the trading day) by means of a simple transfer of securities without coordination with a money transfer, which is also executed on the same day. All settlements are made on a gross basis, ie without offsetting claims and obligations on several securities transfers. On average, the Central Depository effects 50-80 securities transfers daily totalling BYB 2.5 - 4.0 trillion.

4.2.1.3 Settlement system for other types of securities²

Trades in other types of securities are conducted on the stock exchange and over-the-counter markets. In the over-the-counter market, settlements of securities transactions are made by the participants on their own. Securities and money resources are transferred through the domestic depository and payment systems respectively. In the stock market, securities trades are settled by the BCSE.

² Debt instruments issued by domestic commercial banks and economic entities.

The system's main institutional components are: the state-owned Republican Central Securities Depository, responsible for safekeeping of securities and transfers between depositories; depositories maintaining records of the depositors' securities ownership rights; the Issuer's Depository, responsible for collecting and safekeeping of securities and maintaining a securities' holders register; and the BCSE, responsible for arranging securities trading, clearing and settlements of trading transactions.

4.2.1.4 New project for enhancing the securities market infrastructure and securities settlement system

In 1999, a formal directive document "Concepts of arrangements for the securities settlement system based on a clearing scheme" was drawn up and approved by the NBRB. These directives define practical strategies for setting up a modern securities settlement mechanism. In March 2000, a new clearing and settlement system was implemented in accordance with these Concepts. This system processes settlements of transactions with government and NBRB securities. The key principles of this project are usage of legally valid electronic records (as document items) and implementation of delivery versus payment.

The new securities clearing and settlement system provides for smooth settlements of securities trades and for arranging depository accounting and recording of transactions. It helps to contain the settlement exposures of market participants more reliably. Moreover, it enhances the central bank's ability to manage banking system liquidity more efficiently.

5. Role of the NBRB in interbank settlement systems

5.1 Instruments for maintaining liquidity

In order to manage and contain credit and liquidity risks in the payment system, the NBRB employs a number of tools for providing commercial banks with additional liquidity for effecting interbank settlements.

Banks are provided with liquidity for their settlement needs mainly through the standing facilities of the central bank. Collateralised overnight credits are designed to assure smooth current day settlements. They must be repaid during the next business day after their extension. Overnight credits are extended solely upon a bank's request sent electronically to the central bank during any business day before 5.30 pm local time. Eligibility requirements for obtaining such credits include: prior depositing with the central bank of acceptable collateral using the paperless accounting system, absence of overdue debt and compliance with individual limits set for each bank. Interest charged on the overnight credit is not deemed to be a penalty. If a bank meets all said requirements, the NBRB may not refuse credit; however, it retains the right to temporarily suspend extension of such credits.

The following instruments are used to provide banks with liquidity for longer periods (with maturities of up to one month, one month and more than one month):

- lombard credit: this can be extended both at a fixed interest rate upon banks' requests under procedures similar to those for overnight credits and following a credit auction. The auction may be in the form of a volume tender or interest rate tender;
- repos (including guaranteed repos by the NBRB);
- swaps;
- counter-exchange of deposits in the national and foreign currencies; and
- rediscounting of promissory notes issued by economic entities.

The intraday credit mechanism is, in fact, in place within both the overnight and the lombard lending facilities, since banks can repay any credit the same day it is granted at 50% of the applicable interest rate.

Apart from instruments intended for providing liquidity for a fixed term, there is also a possibility to provide liquidity with no time constraints through the outright securities and foreign exchange transactions with banks carried out for structural purposes.

Liquidity for settlements is also provided to the banks from their reserve accounts, since these mandatory reserves are deposited by banks on a special account with the central bank, while banks' correspondent account balances are not included in the reserve requirements. Maintenance of the required reserves level is assessed by the averaging method with time delay. This arrangement allows banks to request the NBRB through the BISS to transfer funds from the reserve to the correspondent account in case of liquidity shortage for intraday settlements. Such funds can be transferred from the reserve account subject to maintenance of the required minimum balances on the reserve account. In order to maintain the preset average reserve requirements the bank is obliged, within the relevant period of such maintenance, to compensate for the borrowed reserves by direct transfer of the necessary amount to the reserve account.

5.2 Main principles of providing bank liquidity for settlement purposes

The instruments for maintaining liquidity of the banking system are grouped as follows:

- level 1: permanently available instruments;
- level 2: instruments available with the central bank's consent or on its own initiative; and
- level 3: instruments of additional support available with the central bank's consent or on its own initiative.

Level 1 instruments

Level 1 instruments include:

- averaging of the mandatory reserve fund (MRF) formed as a share of BYB assets;
- overnight credit facility for settlements; and
- guaranteed acquisition by the NBRB of government securities from the banks as primary investors under repurchase agreement.

These instruments are permanently available mechanisms of liquidity support and can be used at short notice by banks during one business day within the individual limits set. They provide flexibility in satisfying primary requirements of the market for extra short-term liquidity in the offline mode. They are designed to give the NBRB sufficient time for taking conceptual decisions on tactical issues pertaining to banks' liquidity maintenance.

At level 1, there are two possibilities to restrict money supply consequences resulting from liquidity support actions. The first is the averaging principle, which is the core element for the establishment of the required MRF in BYB. According to this principle, partial withdrawal of funds must be fully compensated by prior or subsequent accumulation of equivalent funds on the MRF account within one month, which, in fact, has no money supply consequences. Second, in contrast to free borrowing from the MRF, the use of overnight credits and guaranteed government securities repurchase is aimed at increasing liquidity costs on the money market and is therefore a factor restricting banks' credit expansion.

Level 2 instruments

These include:

- lombard credits at a fixed rate;
- lombard auctions;
- acquisition of government securities from banks under repurchase agreements;
- acquisition from banks of government securities maturing within 30 days;
- acquisition of foreign currency from banks under swap agreements;
- counter-placement of deposits; and
- rediscounting promissory notes.

The characteristic feature of level 2 instruments is the necessity to coordinate refinancing volumes with the NBRB. This is considered to be an essential element in the implementation of a tight monetary policy requiring control over monetary aggregates.

An overall debt limit has been set for level 2 instruments, while no limits for specific types of operations and no individual limits for banks are prescribed.

Level 2 instruments for maintaining liquidity of the banking system ensure mainly targeted support of those banks which are critical for guaranteeing smooth settlements within the entire banking system for a longer period than level 1 instruments - up to 30 days. They are aimed at providing support under the direct control of the NBRB in case of significant funds outflows (as a rule, of a seasonal nature).

Level 3 instruments

Level 3 instruments, which also imply the need for the NBRB's prior consent for refinancing or which are made on its initiative, include:

- lombard auctions;
- acquisition of government securities from banks under repurchase agreements;
- acquisition from banks of government securities maturing within 30 days;
- acquisition of foreign currency from banks under swap agreements; and
- counter-placement of deposits.

There are no limits stipulated for this group of instruments. They are available at interest rates higher than those used for level 2 and only after the total limit prescribed for level 2 instruments has been exhausted.

As determined by the NBRB, level 3 instruments are used whenever the payment system experiences maximum pressure and in other emergencies with a view to providing banks with liquidity up to 30 days. At the same time, the NBRB encourages banks to shorten recourse to such refinancing by setting higher interest rates on these instruments.

5.3 Monetary policy and the payment system

The main objectives of NBRB monetary policy are assuring the internal and external stability of the local currency, maintaining stable prices and supporting the general economic policy of the Government of Belarus.

The NBRB attains these objectives by controlling the monetary base, adjusting interest rates on the money markets, and imposing mandatory reserve requirements.

Dynamic parameters of the monetary base are controlled by the NBRB through financing of the state budget deficit by means of increasing or diminishing the money base through adjustment of the amount of net credit to the Government. The major instruments of influence are: long-term financing of the state budget deficit (in compliance with the Law on the State Budget requirements), short-term financing of temporary cash gaps, purchase and/or sale of state securities from the central bank portfolio, purchase and/or sale of foreign exchange from the Ministry of Finance. Objectives of adjustments to the banking system's liquidity include:

- assuring smooth and continuous settlements by maintaining sufficient rouble balances on banks' correspondent accounts with the NBRB;
- using market mechanisms to achieve money market rate levels required for the implementation of strategic monetary policy objectives;
- smoothing financial market rate fluctuations and preventing shocks provoked by short-term factors; and
- influencing economic expectations of market participants by disclosing NBRB measures in support of liquidity.

A detailed description of liquidity provision instruments is given in Section 5.1. Withdrawal of surplus liquidity from banks is effected by:

- selling government securities to the commercial banks for a fixed term (repo) and “until redeemed”;
- selling foreign exchange under swap agreements;
- issuing NBRB securities; and
- accepting short-term deposits (generally up to seven days) from banks in the form of automatic investment.

The NBRB uses interest rates on banks' liquidity adjustment transactions to influence interbank market rates, determining the direction in which they are expected to change subject to intermediate monetary policy targets as well as the band for rate fluctuation. The direction in which interest rates on NBRB operations are expected to change is dictated by the refinancing base rate adjusted on a monthly basis depending on the actual and projected inflation rate.

The lower bound of interest rate fluctuations on the interbank market is determined by the short-term rates on deposits accepted by the NBRB, while the upper bound is contingent on interest rates on certain liquidity provision instruments.

Based on the projected targets for money supply growth rates, the NBRB sets procedures and norms for allocating mandatory reserves by banks. Reserve funds are deposited in special accounts held with the NBRB. Mandatory reserve funds that are required against mobilised foreign exchange can be allocated in the local or foreign currency. The NBRB is entitled to fix the proportion of funds in foreign and local currency to be reserved. The size of the mandatory reserve allocated on the basis of foreign currency assets is adjusted on a monthly basis.

In order to maintain banks' current liquidity and to assure smooth interbank settlements, a mandatory reserve in the national currency is created in Belarusian roubles by keeping the average amount of actual daily balances (at day-end) at a level which may not be lower than the required mandatory reserve calculated for the whole reporting month.

Banks determine the amount and timing of resource transfers to and from the MRF on their own. The actual MRF balances may not fall below 90% of the reserve requirement fixed by the NBRB starting from the 15th of each month till the 14th of the next month.

5.4 Supervision of banking institutions and oversight of the payment and settlement system

Regulation and supervision of the activities of banks and non-bank credit and financial institutions are the responsibility of the NBRB. The key objectives of the central bank in the area of regulation and supervision of these institutions are to assure stability of the banking system of Belarus and to protect the rights of depositors and creditors.

In order to enforce these regulations the NBRB sets economic norms and monitors institutions' compliance with such norms, conducts audits and inspections of activities of the institutions, issues cease and desist orders and directives to eliminate any revealed violations, and imposes other legally binding penalties and sanctions.

The NBRB in 1998 implemented a set of assessment criteria called “Z” in order to review and evaluate the condition of banking institutions. It is a tool for quick assessment of a bank's condition using four major factors of soundness, namely capital adequacy, loan quality, profitability and liquidity, against the system's average level.

Regarding oversight of the interbank payment and settlement systems, the basic responsibilities of the central bank are stipulated in the Banking Code and in short are focused on assuring the safe, efficient and reliable functioning of the systems.

The key oversight and controlling tool of the central bank is to continuously check performance of settlements by system participants and, in case of need, to impose special regimes for maintaining correspondent accounts of banks in trouble. If such a sanction is enforced then some of the credit and/or debit operations of a bank are restricted.

On the basis of Clause 30 of the Banking Code, the central bank oversees the payment system through the following practical activities:

- defining settlement system access criteria;
- certifying the computer systems of the participating banks;
- defining payment message standards;
- adjusting the current liquidity position of the banking system;
- defining the pricing policy for ASIS services.

In addition, the NBRB through its Interbank Operations Department determines the current operational mode of the ASIS and its changes in case of breakdowns and other emergency situations. It manages the opening and closing of the ASIS operating day, performs current monitoring and management of the ASIS, generates regular system reports to the participating banks, and provides banks with the updated status of their correspondent account balances and those of the entire system.

Moreover, the Interbank Operations Department is involved in:

- monitoring the current balances of correspondent accounts of commercial banks. Monitoring, as one of the oversight tools regarding performance of the payment and settlement system participants, helps to reveal and avoid emergency situations and thus contributes to greater stability and efficiency of payment system operations;
- checking banks' compliance with regulations and rules governing the settlement procedures via their correspondent accounts.

The NBRB also sets the rules and retention periods for storing records of interbank settlements and coordinates the activities of the Central Archive of Interbank Settlements Records. Warehousing procedures of this unit provide for keeping and authorised use of any information related to transactions performed in the interbank settlement system in Belarus as well as any data required to resolve disputes and legal claims of the system participants.

Statistical tables

Table 1
Basic statistical data

	1998	1999
Population, year-end (thousands)	10,179.1	10,017.9
GDP (BYB billions)	675.2	2,890.3
GDP per capita (BYB)	66,328	288,516
Official exchange rate (BYB thousands per USD)		
<i>year-end</i>	107	320
<i>average</i>	46.5	250.2
Money in circulation (M1), year-end (BYB millions)	80,932.3	233,415.2
Money in circulation (M3), year-end (BYB millions)	96,495.2	284,731.5

Note: The monetary unit was revalued by a factor of 1,000 on 1 January 2000.

Table 2
Settlement facilities used by banks
(in 1999)

	On 1 January 2000
1. Mandatory reserves held at the NBRB	49,563.3
<i>Roubles, in millions of BYB</i>	27,446.2
<i>Foreign exchange, in thousands of USD</i>	69,115.6
1.1 Including required reserves which may be used for settlement ¹	0.0
2. Surplus rouble reserves, in millions of BYB	9,687.2
<i>Cash</i>	5,506.2
<i>Correspondent accounts with the NBRB</i>	2,097.0
<i>Deposits with the NBRB</i>	2,084.0
<i>Securities of the NBRB (bills, short-term obligations)</i>	0.0
3. Surplus forex reserves, in millions of BYB	19,794.3
<i>Correspondent accounts with the NBRB</i>	562.3
<i>Deposits with the NBRB</i>	19,232.0
<i>NBRB securities denominated in foreign currency</i>	0.0
4. Banks' borrowing from central bank, in millions of BYB	6,351.0
4.1 Loans against government securities	
<i>Overnight settlement loans</i>	0.0
<i>Lombard loans</i>	1,800.0
4.2 Forex transactions	
<i>Mutual deposits of the NBRB and banks</i>	0.0
<i>Purchases by the NBRB under swap agreements</i>	1,536.0
4.3 Government securities transactions	3,015.0
<i>Purchases by the NBRB under repo agreements</i>	3,015.0

¹ From January 2000 only 10% of required reserve funds may be used for settlement.

Table 3
Payment instructions settled in ASIS systems in 2000: volume and value of transactions

Description	January	February	March	April	May	June	July	August	September	October	November	December
Number of settled payment instructions (thousands)	2,140.57	2,451.57	2,628.09	2,384.32	2,641.99	2,635.70	2,423.37	2,746.90	2,578.60	2,732.60	2,645.40	2,732.50
<i>of which:</i>												
<i>BISS transactions in %</i>	160.40 7.49	205.50 8.38	232.80 8.86	218.30 9.16	248.57 9.41	256.80 9.74	25.30 10.62	313.70 11.42	294.37 11.42	315.70 11.55	311.10 11.76	343.66 12.58
<i>Clearing system in %</i>	1,980.00 92.51	2,246.07 91.62	2,396.08 91.14	2,165.96 90.84	2,393.40 90.59	2,378.90 90.26	2,166.05 89.38	2,433.20 88.58	2,284.20 88.58	2,416.89 88.45	2,334.22 88.24	2,388.90 87.43
Total value of settled transactions (BYB billions)	1,709.90	2,275.60	2,562.80	2,281.00	2,710.00	2,880.30	3,030.90	3,566.70	3,492.40	3,761.80	3,830.30	4,297.60
<i>of which:</i>												
<i>BISS transactions in %</i>	1,502.40 87.86	2,027.50 89.10	2,285.40 89.18	2,033.00 89.13	2,418.70 89.25	2,578.10 89.51	2,738.40 90.35	3,222.00 90.33	3,173.00 90.85	3,424.50 91.03	3,497.40 91.31	3,956.50 92.06
<i>Clearing system in %</i>	207.60 12.14	248.10 10.90	277.40 10.82	248.00 10.87	291.30 10.75	302.10 10.49	292.50 9.65	344.80 9.67	319.40 9.15	337.30 8.97	333.00 8.69	341.10 7.94

Note: The average daily turnover in January-December 2000 is estimated at BYB 143.3 billion (121,000 transactions).

Table 4
Payment instructions settled in ASIS systems in 1999: volume and value of transactions

	January	February	March	April	May	June	July	August	September	October	November	December
Number of settled payment instructions (thousands)	2,222.90	2,442.69	2,848.25	2,828.62	2,898.17	2,868.64	2,829.75	2,801.12	2,767.00	2,754.47	2,873.30	2,971.20
<i>of which:</i>												
<i>BISS transactions in %</i>	115.20 5.18	110.50 4.52	129.46 4.55	127.00 4.49	125.92 4.34	134.26 4.68	125.60 4.44	143.79 5.13	37.34 1.35	93.60 3.40	169.40 5.90	196.50 6.61
<i>net transactions in %</i>	2,107.70 94.82	2,332.19 95.48	2,718.79 95.45	2,701.62 95.51	2,772.25 95.66	2,734.38 95.32	2,704.15 95.56	2,657.33 94.87	2,729.66 98.65	2,660.87 96.60	2,703.90 94.10	2,774.70 93.39
Total value of settled transactions (BYB billions)	506.49	589.52	808.50	884.89	877.27	896.15	995.66	1,212.36	1,331.29	1,519.50	1,935.80	1,907.99
<i>of which:</i>												
<i>BISS transactions in %</i>	272.46 53.79	265.78 45.08	361.17 44.67	432.00 48.82	391.18 44.59	354.11 39.51	398.89 40.06	571.20 47.11	630.42 47.35	999.86 65.80	1,664.00 85.96	1,624.59 85.15
<i>net transactions in %</i>	234.03 46.21	323.74 54.92	447.33 55.33	452.89 51.18	486.09 55.41	542.04 60.49	596.77 59.94	641.16 52.89	700.87 52.65	519.64 34.20	271.80 14.04	283.40 14.85

Note: The average daily turnover in January-December 1999 is estimated at BYB 52.4 billion (128,818 transactions).

Table 5
Payment instructions handled in ASIS systems in 1998: volume and value of transactions

	January	February	March	April	May	June	July	August	September	October	November	December
Number of settled payment instructions (thousands)	2,115.35	2,303.66	2,604.32	2,570.37	2,515.49	2,671.84	2,676.50	2,525.18	2,577.29	2,705.91	2,632.60	2,872.57
<i>of which:</i>												
<i>BISS transactions in %</i>	1.36 0.06	4.73 0.21	12.12 0.47	21.86 0.85	23.15 0.92	33.92 1.27	42.92 1.60	78.61 3.11	85.73 3.33	1.70 3.76	112.41 4.27	141.47 4.92
<i>net transactions in %</i>	2,113.99 99.94	2,298.93 99.79	2,592.20 99.53	2,548.51 99.15	2,492.34 99.08	2,637.92 98.73	2,633.58 98.40	2,446.57 96.89	2,491.56 96.67	2,604.21 96.24	2,520.19 95.73	2,731.10 95.08
Total value of settled transactions (BYB billions)	167.25	175.15	213.66	220.73	196.80	221.23	232.00	250.78	276.62	312.37	364.42	495.59
<i>of which:</i>												
<i>BISS transactions in %</i>	9.85 5.89	23.17 13.23	50.56 23.66	61.09 27.68	59.22 30.09	81.57 36.87	91.78 39.56	110.31 43.99	121.99 44.10	132.30 42.35	161.42 44.30	233.19 47.05
<i>net transactions in %</i>	157.40 94.11	151.98 86.77	163.10 76.34	159.64 72.32	137.58 69.91	139.66 63.13	140.22 60.44	140.47 56.01	154.63 55.90	180.07 57.65	203.00 55.70	262.40 52.95

Note: The average daily turnover in 1998 is estimated at BYB 12.3 billion (120,671 transactions).

Table 6
Payment cards, 1999-2000

	1999	2000
Number of cards in circulation	17,665	43,010
<i>of which:</i>		
<i>BelCard</i>	12,186	25,986
<i>international system cards</i>	4,149	12,233
<i>other cards</i>	1,330	4,791
Value of transactions (USD millions)	21.1	31.7
<i>of which:</i>		
<i>BelCard</i>	7.7	14.9
<i>international system cards</i>	12.2	14.5
<i>other cards</i>	1.2	2.3

Table 7
Cash dispensers, ATMs and EFTPOS terminals

	1999	2000
EFTPOS terminals	796	1,003
<i>accepting:</i>		
<i>BelCard</i>	109	204
<i>international system cards</i>	682	783
<i>other cards</i>	5	16
Cash dispensers	219	423
<i>accepting:</i>		
<i>BelCard</i>	51	81
<i>international system cards</i>	146	319
<i>other cards</i>	22	23
ATMs	8	47
<i>accepting:</i>		
<i>BelCard</i>	2	10
<i>international system cards</i>	6	24
<i>other cards</i>	0	13

Table 8
Participation in SWIFT by domestic institutions

	1999
Members	14
Associate members	6

Table 9
SWIFT message flows to/from domestic users

	1999
Total messages received	620,120
Total messages sent	422,086
<i>of which:</i>	
<i>category I</i>	<i>281,100</i>
<i>category II</i>	<i>80,889</i>

Comparative tables

Table 1
Notes and coin in circulation¹

	1995	1996	1997	1998	1999
	USD per inhabitant²				
Belarus	32	39	40	25	27
Belgium	1,391	1,340	1,174	1,244	1,177
Canada	677	687	688	683	834
France	892	841	742	800	767
Germany	2,025	1,936	1,679	1,682	1,592
Italy	1,082	1,138	1,062	1,210	1,135
Japan	3,578	3,363	3,217	3,727	4,594
Netherlands	1,537	1,411	1,227	1,268	1,098
Sweden	1,312	1,327	1,183	1,207	1,303
Switzerland	3,394	3,127	2,828	3,117	2,771
United Kingdom	531	606	627	655	695
United States	1,430	1,499	1,600	1,715	1,908
	As a percentage of GDP				
Belarus	3.1	3.2	3.4	3.9	2.9
Belgium	5.3	5.2	5.1	4.8	5.1
Canada	3.4	3.4	3.4	3.5	3.8
France	3.3	3.3	3.2	3.1	3.3
Germany	6.9	7.0	6.8	6.4	6.6
Italy	5.5	5.3	5.5	5.6	6.0
Japan	9.6	9.8	10.4	10.9	12.0
Netherlands	na	5.5	5.2	4.8	4.6
Sweden	4.7	4.8	4.7	4.6	4.9
Switzerland	7.7	8.0	7.8	7.9	8.1
United Kingdom	2.8	2.8	2.8	2.7	2.9
United States	5.1	5.1	5.2	5.3	5.6
	As a percentage of narrow money³				
Belarus	37.1	39.5	36.3	33.5	37.2
Belgium	27.2	27.5	26.5	23.8	20.4
Canada	17.1	15.6	15.3	15.7	16.6
France	14.2	14.2	13.5	13.2	13.2
Germany	29.1	26.9	26.3	23.3	23.4
Italy	16.3	16.1	16.1	16.1	15.2
Japan	26.9	26.1	25.8	25.3	24.8
Netherlands	22.1	19.7	18.5	14.7	13.2
Sweden	10.5	9.9	10.0	10.2	10.6
Switzerland	18.0	17.3	15.6	15.5	15.1
United Kingdom	4.6	4.5	4.6	4.5	4.6
United States	32.6	36.0	39.1	41.4	45.4

¹ For an explanation of the figures, see the relevant country tables. ² Year-end figures converted at end-of-year exchange rates. ³ Narrow money: M1, except for Sweden (M3) and the United Kingdom (M2).

Table 2
Transferable deposits held by non-banks^{1,2}

	1995	1996	1997	1998	1999
	USD per inhabitant				
Belarus ³	123	132	160	86	158
Belgium	3,715	3,536	3,261	3,984	4,598
Canada	3,279	3,702	3,812	3,675	4,204
France	5,381	5,082	4,761	5,242	4,968
Germany	4,953	5,309	4,697	5,551	5,138
Italy	5,399	5,784	5,386	6,199	6,321
Japan	9,697	9,526	9,245	10,987	13,929
Netherlands	5,421	5,763	5,397	7,342	7,213
Sweden	11,351	11,991	10,476	10,570	10,666
Switzerland	8,359	8,282	8,673	9,824	8,902
United Kingdom	11,073	12,797	12,895	13,809	14,474
United States	2,918	2,632	2,465	2,398	2,262
	As a percentage of GDP				
Belarus	11.8	11.4	12.7	28.1	14.5
Belgium	14.0	13.8	14.1	15.5	20.1
Canada	16.0	18.0	19.0	19.0	19.0
France	20.1	19.8	20.6	20.3	21.7
Germany	16.8	19.1	19.1	21.2	21.2
Italy	27.4	26.8	27.9	28.7	33.3
Japan	25.9	27.8	29.7	32.1	36.4
Netherlands	na	22.5	23.1	28.0	30.4
Sweden	40.6	44.3	42.0	40.4	40.4
Switzerland	18.9	21.3	23.8	25.0	25.9
United Kingdom	58.4	58.1	57.4	57.7	59.8
United States	10.4	8.9	7.9	7.4	6.6
	As a percentage of narrow money⁴				
Belarus	78.6	77.0	78.4	87.4	82.7
Belgium	72.8	72.5	73.5	76.2	79.6
Canada	83.0	84.0	85.0	84.0	83.0
France	85.8	85.8	86.5	86.8	85.6
Germany	71.2	73.8	73.7	76.8	75.5
Italy	81.1	81.8	81.8	82.4	84.8
Japan	73.1	73.9	74.2	74.7	75.2
Netherlands	77.9	80.3	81.5	85.3	86.8
Sweden	90.6	91.1	88.7	89.6	86.9
Switzerland	44.2	45.8	47.9	48.9	48.4
United Kingdom	95.4	95.5	95.4	95.5	95.4
United States	66.6	63.2	60.2	57.9	53.8

¹ For an explanation of the figures and a definition of transferable deposits, see the relevant country tables. ² Year-end figures converted at end-of-year exchange rates. ³ Deposits held with banks (BYB millions). ⁴ Narrow money: M1; for Belarus, M4; Canada and Sweden, M3; for the United Kingdom, M2.

Table 3
Settlement media used by banks¹
(1999)

	Banks' reserves at central bank (USD billions)²	Banks' reserves at central bank as a percentage of narrow money³	Transferable deposits at other banks (USD billions)²	Transferable deposits at other banks as a percentage of narrow money³
Belarus	0.1	70.0	na	na
Belgium	7.3	12.4	6.5	11.0
Canada	0.9	0.6	2.7	1.7
France	18.4	5.4	na	na
Germany	33.4	6.0	115.0	20.6
Italy	11.7	2.7	58.2	13.5
Japan	94.9	4.0	73.0 ⁴	3.2 ⁵
Netherlands	15.7	11.9	na	na
Sweden	3.6	3.3	11.1	10.2
Switzerland	5.3	4.0	23.9	18.2
United Kingdom	3.4	0.4	342.3	37.9
United States	11.1	1.0	31.1	2.7

¹ For an explanation of the figures, see the relevant country tables. ² Year-end figures converted at end-of-year exchange rates. ³ Narrow money: M1; for Canada and Sweden, M3; for the United Kingdom, M2. ⁴ End-March figure converted at end-March exchange rate. ⁵ End-March figure.

Table 4
Institutional framework¹
(1999)

	Number of institutions	Number of inhabitants per institution	Number of branches	Number of inhabitants per branch	Number of accounts per inhabitant
Belarus	27	371,100	545	18,400	na
Belgium	121	84,479	8,372	1,221	1.3
Canada ²	2,108	14,507	13,696	2,233	na
France	1,672	35,345	25,144	2,350	0.9
Germany	2,995	27,446	55,492	1,481 ³	1.0
Italy	878	65,718	41,209	1,400	0.5 ⁴
Japan	3,169	39,977	64,614	1,961	na
Netherlands	123	128,848	6,282	2,523	1.3
Sweden	123	72,049	3,940	2,249	na
Switzerland	336	21,323	6,528	1,097	na
United Kingdom	506	117,589	34,146	1,743	2.6
United States ⁵	21,070	12,841	77,983	3,469	na

¹ For an explanation of the figures, see the relevant country tables. ² Deposit-taking institutions only. ³ Including post office branches which are entrusted with the execution of semi-cashless payments for Deutsche Postbank AG. ⁴ Refers to bank accounts only. ⁵ Number of branches does not include head offices of any type of institution or branches of credit unions.

Table 5
Cash dispensers and ATMs¹

	1995	1996	1997	1998	1999
Number of machines per 1,000,000 inhabitants					
Belarus	na	na	na	na	5
Belgium	360	414	492	562	608
Canada	600	624	652	775	874
France	395	419	461	499	549
Germany	436	459	504	556	562
Italy	378	421	444	487	523
Japan	1,013	1,051	1,115	1,127	1,143
Netherlands	378	395	409	417	423
Sweden	267	269	268	281	291
Switzerland	532	587	678	643	655
United Kingdom	358	376	393	416	476
United States	466	524	616	692	831
Number of transactions per inhabitant					
Belarus	na	na	na	na	na
Belgium	14.3	15.1	15.7	15.6	17.4
Canada	43.7	45.6	48.3	52.0	53.4
France	15.8	18.1	19.9	20.5	na
Germany	13.4	15.3	na	17.1	18.4
Italy	5.8	6.4	7.2	8.4	8.6
Japan	3.8	4.1	5.0	5.8	6.0
Netherlands	23.2	25.7	25.8	27.0	33.4
Sweden	31.8	33.6	35.3	37.6	35.0
Switzerland	10.0	10.6	11.4	11.3	12.2
United Kingdom	25.2	27.2	29.6	31.3	33.1
United States	36.9	40.3	41.0	41.4	39.9
Average value of transactions (USD)²					
Belarus	na	na	na	na	na
Belgium	138.1	129.5	114.3	124.0	104.8
Canada ³	51.0	52.0	50.6	62.2	65.4
France	81.3	77.4	68.5	70.7	na
Germany	196.6	179.0	na	169.5	156.0
Italy	198.3	202.7	184.7	178.9	150.9
Japan	450.6	383.4	288.8	235.0	258.3
Netherlands	119.3	109.8	97.6	96.1	78.4
Sweden	112.6	104.4	104.5	108.4	100.0
Switzerland	246.9	209.5	186.6	180.4	172.9
United Kingdom	77.3	78.1	84.5	87.8	88.8
United States	67.7	68.0	67.7	68.0	68.0

¹ For an explanation of the figures, see the relevant country tables. ² Converted at yearly average exchange rates.

³ Average value of a cash withdrawal only.

Table 6
EFTPOS terminals¹

	1995	1996	1997	1998	1999
Number of terminals per 1,000,000 inhabitants					
Belarus	na	na	66	80	100
Belgium	7,174	7,997	8,421	9,124	9,767
Canada	6,448	8,501	10,988	12,986	13,278
France	9,394	9,333	9,540	9,949	13,529
Germany ²	856	1,402	1,983	2,816	3,658
Italy	2,683	3,734	4,887	6,000	7,542
Japan	200	183	155	127	na
Netherlands	4,736	6,170	7,692	8,533	9,186
Sweden	6,160	6,946	7,774	8,405	9,155
Switzerland	3,499	4,747	5,803	7,167	8,602
United Kingdom	8,647	9,354	8,983	10,304	11,765
United States	2,010	3,298	4,851	6,283	8,604
Number of transactions per inhabitant					
Belarus	na	na	0.006	0.006	0.04
Belgium	20.8	23.9	27.2	32.7	38.6
Canada	13.4	22.7	34.6	44.7	54.3
France	32.3	32.4	32.7	36.8	41.3
Germany ²	1.8	2.6	2.8	4.4	5.2
Italy	2.1	2.9	4.4	6.0	8.1
Japan	0.007	0.004	0.004	0.004	0.003
Netherlands	16.5	23.8	31.0	37.8	44.2
Sweden	10.4	12.6	15.9	19.0	26.0
Switzerland	8.0	10.8	13.6	14.9	19.1
United Kingdom	na	na	na	na	na
United States	6.1	9.3	14.6	21.2	27.5
Average value of transactions (USD)³					
Belarus	na	na	16.9	14.9	19.9
Belgium	77.6	72.6	63.3	66.2	55.7
Canada	34.8	32.7	30.8	29.1	29.5
France	63.3	60.4	51.5	54.2	48.7
Germany ²	95.7	98.2	71.7	88.5	84.4
Italy	118.6	118.2	106.8	96.1	79.3
Japan	na	32.4	56.6	62.4	246.7
Netherlands	59.1	56.5	48.7	48.2	48.6
Sweden	80.7	80.7	78.0	68.0	68.0
Switzerland	96.4	96.3	73.5	63.6	76.2
United Kingdom	na	na	na	Na	na
United States	37.0	40.4	41.5	41.6	43.0

¹ For an explanation of the figures, see the relevant country tables. ² In 1997 electronic cash only. ³ Converted at yearly average exchange rates.

Table 7
Number of cards¹
(1999, per 1,000 inhabitants)

	Cards with a cash function	Cards with a debit/credit function	Cards with a cheque guarantee function	Retailers' cards
Belarus	4	4	0	na
Belgium	1,308	1,308	436	156
Canada	2,027	2,482	.	na
France	636	567	.	.
Germany	1,200	1,297	552	97
Italy	369	565	5.5	na
Japan	2,388	na	.	503
Netherlands	1,527	1,527	na	na
Sweden	830	799	na	na
Switzerland	1,106	1,142	729	na
United Kingdom	1,881	1,529	911	na
United States	2,658	2,793	na	2,177

¹ For an explanation of the figures see the relevant country tables.

Table 8
Relative importance of cashless payment instruments¹
 (percentage of total volume of cashless transactions)

	1995	1996	1997	1998	1999
	Cheques				
Belarus	na	na	na	1.7	2.6
Belgium	10.6	9.4	8.0	7.0	5.8
Canada	52.1	45.4	39.4	34.6	31.5
France	45.6	43.6	43.0	40.7	na
Germany	7.0	6.4	5.7	4.8	4.0
Italy ²	33.7	31.4	28.8	27.2	25.6
Japan	na	na	na	Na	na
Netherlands	5.8	4.0	2.8	1.9	1.0
Sweden	.	.	2.0	0.3	0.3
Switzerland ³	2.0	1.6	1.3	1.0	0.8
United Kingdom ⁴	41.3	37.8	34.7	32.0	29.0
United States	76.3	74.5	72.9	70.8	68.6
	Cards				
Belarus	na	na	na	0.04	0.04
Belgium	19.7	21.4	23.4	27.4	28.9
Canada ⁵	33.3	38.8	44.5	48.4	51.7
France	17.6	18.3	16.9	18.2	na
Germany	3.6	4.2	4.1	5.1	5.2
Italy ²	6.6	8.6	11.2	14.2	17.6
Japan	na	na	na	na	na
Netherlands	13.4	19.5	23.2	26.2	28.6
Sweden	14.2	14.8	18.9	23.0	24.1
Switzerland	18.4	20.7	22.8	23.4	27.3
United Kingdom	24.1	27.1	29.6	31.7	34.6
United States	20.0	21.4	22.9	24.6	26.6

¹ For an explanation of the figures, see the relevant country tables. In some cases the total may not sum to 100% because of other items. ² The figures for 1995 differ from those provided in the statistical annex of the Italian chapter as they are estimated for the whole system. ³ Postal cheques are not included because detailed figures are not published by Postfinance. ⁴ Includes Town cheques. ⁵ Figures for 1995-97 are estimated.

Table 8 (cont)

	1995	1996	1997	1998	1999
	Credit transfers				
Belarus	na	na	na	na	na
Belgium	60.2	59.5	58.0	54.0	51.9
Canada	8.2	8.9	8.9	9.5	9.4
France	15.6	15.7	16.3	16.4	na
Germany	48.8	49.2	48.2	50.6	50.6
Italy ²	45.0	41.7	40.8	39.0	37.2
Japan	na	na	na	na	na
Netherlands	52.7	48.8	46.3	43.8	41.6
Sweden	79.4	78.5	72.1	68.6	67.5
Switzerland ⁶	76.3	74.4	72.3	72.1	68.4
United Kingdom ⁷	18.2	18.0	18.0	17.8	17.6
United States	2.4	2.6	2.7	3.1	3.2
	Direct debits				
Belarus	na	na	na	na	na
Belgium	9.5	9.7	9.8	9.4	9.4
Canada	6.4	6.8	7.2	7.4	7.5
France	11.3	11.8	12.5	13.3	na
Germany	40.6	40.2	42.0	39.5	40.2
Italy ²	5.4	7.3	8.5	9.2	10.4
Japan	na	na	na	na	na
Netherlands	28.1	27.7	27.7	28.2	28.9
Sweden	6.4	6.7	7.1	8.0	8.1
Switzerland ⁸	3.3	3.3	3.6	3.5	3.6
United Kingdom	16.4	17.0	17.8	18.6	18.9
United States	1.3	1.4	1.5	1.6	1.7

⁶ All transfers at Postfinance included. ⁷ Paper-based and paperless (includes large-value: CHAPS). ⁸ Without Postfinance direct debits; see footnote 6.

Table 9
Relative importance of cashless payment instruments¹
 (percentage of total value of cashless transactions)

	1995	1996	1997	1998	1999
Cheques					
Belarus	na	na	na	0.2	0.2
Belgium	3.3	3.0	2.9	3.2	0.6
Canada	98.2	97.3	97.0	96.5	21.5
France	4.7	4.8	4.4	2.6	na
Germany	2.1	1.8	1.6	1.4	1.7
Italy ²	4.5	3.7	3.3	2.8	3.7
Japan	na	na	na	na	na
Netherlands	0.1	0.0	0.0	0.0	0.0
Sweden	na	na	na	0.5	0.4
Switzerland ³	0.1	0.1	neg	neg	neg
United Kingdom ⁴	6.3	5.9	5.0	4.4	2.8
United States	11.9	11.2	10.5	10.3	11.2
Cards					
Belarus	na	na	na	0.001	0.003
Belgium	0.1	0.2	0.2	0.2	0.1
Canada ⁵	0.4	0.7	0.7	0.8	0.5
France	0.2	0.2	0.2	0.1	na
Germany	neg	neg	neg	neg	0.1
Italy ²	0.1	0.1	0.1	0.1	0.1
Japan	na	na	na	na	na
Netherlands	0.1	0.2	0.2	0.2	0.2
Sweden	1.4	1.5	1.7	1.9	2.3
Switzerland	neg	neg	0.1	0.1	0.1
United Kingdom	0.2	0.3	0.3	0.3	0.2
United States	0.2	0.2	0.2	0.2	0.2

¹ For an explanation of the figures, see the relevant country tables. In some cases the total may not sum to 100% because of other items. ² The figures for 1995 differ from those provided in the statistical annex of the Italian chapter as they are estimated for the whole system. ³ Postal cheques are not included because detailed figures are not published by Postfinance. ⁴ Includes Town cheques. ⁵ Figures for 1995-97 are estimated.

Table 9 (cont)

	1995	1996	1997	1998	1999
	Credit transfers				
Belarus	na	na	na	na	na
Belgium	96.3	96.6	96.7	96.3	98.9
Canada	1.0	1.5	1.8	2.1	77.5
France	93.0	92.7	93.4	96.0	na
Germany	95.8	95.7	95.9	95.8	91.4
Italy ²	94.1	95.0	95.4	95.7	94.5
Japan	na	na	na	na	na
Netherlands	98.9	99.0	99.1	99.2	99.1
Sweden	95.7	95.6	95.8	94.9	94.3
Switzerland ⁶	99.8	99.8	99.8	99.8	99.8
United Kingdom ⁷	92.4	92.7	93.8	94.4	96.3
United States	87.0	87.6	88.4	88.4	87.5
	Direct debits				
Belarus	na	na	na	na	na
Belgium	0.3	0.3	0.3	0.3	0.3
Canada	0.3	0.5	0.6	0.7	0.5
France	0.9	1.0	1.0	0.6	na
Germany	2.1	2.5	2.5	2.7	6.9
Italy ²	0.2	0.2	0.3	0.3	0.5
Japan	na	na	na	na	na
Netherlands	0.9	0.8	0.7	0.7	0.7
Sweden	2.9	2.9	2.5	2.7	3.0
Switzerland ⁸	0.1	0.1	0.1	0.1	0.1
United Kingdom	1.0	1.1	1.0	1.0	0.7
United States	1.0	1.0	1.0	1.0	1.1

⁶ All transfers at Postfinance included. ⁷ Paper-based and paperless (includes large-value: CHAPS). ⁸ Without Postfinance direct debits; see footnote 6.

Table 10a
Features of selected interbank funds transfer systems^{1,7}
 (figures relate to 1999)

	Type ²	Owner/ manager ³	No of participants		Processing ⁴	Settlement ⁵	Membership ⁶
				of which direct			
Belarus							
Clearing House	R	CB	588	29	RTT	N	RM
BISS	L	CB	588	29	RTT	RTGS	RM
Belgium ⁷							
Clearing House	L+R	B+CB	101	44	M	N	O
CEC	R	B+CB	104	46	ACH	N	O
Canada							
LVTS	L	AS	14	14	RTT	N	RM
France ⁷							
CH Paris ⁸	L+R	AS	357	29	M	N	RM
CH Provinces ⁹	R	CB	267	219	M	N	O
SIT	R	CB+B/AS	311	22	RTT	N	RM
CREIC	R	CB	16	16	ACH	N	O
PNS ¹⁰	L	CB+B/AS	25	25	RTT	N/BN/RTGS	RM
Germany ⁷							
EMZ (former DTA)	R	CB	2,662	2,662	ACH	GS	O
EAF (former EAF 2)	L	CB	68	68	RTT	N/BN	RM
Italy ⁷							
Local clearing	R	CB	na	135	RTT ¹¹	N	O
Retail	R	CB ¹²	942	211	ACH	N	O

¹ For additional information, see the relevant country chapters. ² L = large-value system, R = retail system.
³ Owner/manager: B = banks, CB = central banks, AS = payment association. ⁴ Processing method: M = manual, ACH = automated clearing house (offline), RTT = real-time transmission. ⁵ N = multilateral netting, BN = bilateral netting, RTGS = real-time gross settlement, GS = other gross settlement. ⁶ O = open membership (any bank can apply) or RM = restricted membership (subject to criteria). ⁷ For information on the national components of the EU-wide TARGET system (namely, ELLIPS in Belgium, TBF in France, ELS in Germany and BI-REL in Italy), see the relevant country tables. Data on TARGET as a whole are shown in Table 10b under European Union. ⁸ Clearing house in Paris. ⁹ Clearing houses in the provinces.
¹⁰ Previous SNP system changed to PNS (Paris Net Settlement) during 1999. ¹¹ Transactions can also be submitted on floppy disk. ¹² System managed by the Interbank Society for Automation in the name and on behalf of the Bank of Italy.

Table 10a (cont)

	Degree of centralisation ¹³	Pricing ¹⁴	Closing time for same day transactions ¹⁵	Number of transactions (thousands)	Value of transactions (USD billions) ¹⁶	Ratio of transactions value to GDP (at annual rate)
Belarus						
Clearing House	C	V	16:00	31,598	20	1.8
BISS	C	V	17:00	1,509	29	2.6
Belgium⁷						
Clearing House	D	V	15:00	4,950	113	0.5
CEC	C	F	15:00	937,160	477	2.0
Canada						
LVTS	C	F	18:30	3,040	15,035	23.1
France⁷						
CH Paris ⁸	C	F	15:00	683,689	903	0.7
CH Provinces ⁹	D	N	11:00	2,700,494	1,163	0.9
SIT	D	F	13:30	5,913,372	2,505	1.9
CREIC	D	V	12:00	304,530	30	0.02
PNS ¹⁰	C	F	16:00	5,197	25,647	18.9
Germany⁷						
EMZ (former DTA)	C	V	NO	2,176,200	2,388	1.1
EAF (former EAF 2)	C	F	16:00	12,100	41,610	19.7
Italy⁷						
Local clearing	D	V	12:00	103,942	666	0.6
Retail	C	F	NO ¹⁷	959,750	1,279	1.2

¹³ Geographical access to the system: C = centralised (one processing centre only) or D = decentralised. ¹⁴ Prices charged to participants: F = full costs (including investment), V = variable costs, S = symbolic costs (below variable costs), N = no costs. ¹⁵ closing time for same day transactions (NO = no same day transactions). ¹⁶ Converted at yearly average exchange rates. ¹⁷ Except for credit transfers entered before 10:00, which are settled on the same day.

Table 10b
Features of selected interbank funds transfer systems¹
 (figures relate to 1999)

	Type ²	Owner/ manager ³	No of participants		Processing ⁴	Settlement ⁵	Membership ⁶
				of which direct			
Japan							
FEYCS	L	B	259	47	RTT	N/RTGS	RM
BOJ-NET	L	CB	409	409	RTT	RTGS ⁷	RM
Netherlands⁸							
Interpay	R	B	71	71	ACH	N	O
Sweden⁸							
K-RIX	L	CB	23	23	RTT	RTGS	RM
Bank Giro System	R	B	18	18	ACH	N	O
Switzerland							
SIC	L+R	CB+B	291	291	RTT	RTGS	RM
DTA/LSV	R	B	161	161	ACH	GS	RM
United Kingdom⁸							
CHAPS Sterling	L	B	404	14	RTT	RTGS	RM
BACS	R	B	50,000 ⁹	15	ACH	N	RM
Cheque/credit	R	B	471	12	M	N	RM
United States							
Fedwire	L	CB	9,994 ¹⁰	9,994 ¹⁰	RTT	RTGS	O
CHIPS	L	B	77	77	RTT	N	RM
European Union							
TARGET	L	CB	5,144	4,261	RTT	RTGS	O
Euro 1	L	B	72	72	RTT	na ¹¹	RM

¹ For additional information, see the relevant country chapters. ² L = large-value system, R = retail system.
³ Owner/manager: B = banks, CB = central banks. ⁴ Processing method: M = manual, ACH = automated clearing house (offline), RTT = real-time transmission. ⁵ N = multilateral netting, BN = bilateral netting, RTGS = real-time gross settlement, GS = other gross settlement. ⁶ O = open membership (any bank can apply) or RM = restricted membership (subject to criteria). ⁷ The system has been designed to allow participants to enter funds transfer instructions continuously, in which case settlement takes place on the central bank's books immediately. It is, however, also used to settle on a net basis. ⁸ For information on the national components of the EU-wide TARGET system (namely, TOP in the Netherlands, E-RIX in Sweden and CHAPS Euro in the United Kingdom), see the relevant country tables. Data on TARGET as a whole are shown under European Union. ⁹ Estimated. ¹⁰ Fedwire participants as of 30 June 2000. ¹¹ The legal structure of Euro 1 is based on the Single Obligation Structure (SOS), whereby on each settlement day, at any given time, each participant will have only one single payment obligation or claim with respect to the community of the other participants as joint creditors/debtors, which will be settled at the end of the day. In accordance with the SOS, no bilateral payments, claims or obligations between participants will be created by the processing of payments in the system. Nor will there be any form of setoff, novation or netting resulting from the continuous adjustment of the participants' single claim or obligation.

Table 10b (cont)

	Degree of centralisation ¹²	Pricing ¹³	Closing time for same day transactions ¹⁴	Number of transactions (thousands)	Value of transactions (USD billions)	Ratio of transactions value to GDP (at annual rate)
Japan						
FEYCS	D	V ¹⁵	13:45	9,995	62,389	14.4
BOJ-NET	D	V ¹⁵	17:00	4,810	302,792	69.7
Netherlands⁸						
Interpay	C	F	11:30	2,152,500	1,431	3.6
Sweden⁸						
K-RIX	C	F	17:00	343	12,208	50.6
Bank Giro System	C	F	NO	338,000	395	1.6
Switzerland						
SIC	C	F	16:15	141,700	28,805	111.2
DTA/LSV	C	F	09:00	104,600	245	0.9
United Kingdom^{8,16}						
CHAPS Sterling	D	F	17:00	19,786	72,336	50.1
BACS	C	F	NO	3,095,405	2,850	2.0
Cheque/credit	D	F	NO	2,103,569	2,322	1.6 ¹⁷
United States						
Fedwire	C	F	18:30	102,800	343,382	36.9
CHIPS	C	F	16:30	57,300	297,934	32.0
European Union						
TARGET	D	F	18:00	42,258	240,574	
Euro 1	C	F	16:00	17,646	44,418	

¹² Geographical access to the system: C = centralised (one processing centre only) or D = decentralised. ¹³ Prices charged to participants: F = full costs (including investments), V = variable costs, S = symbolic costs (below variable costs), N = no costs. ¹⁴ Closing time for same day transactions (NO = no same day transactions). ¹⁵ Prices are set on the principle that institutions which are to benefit from online processing should pay the relevant charges. ¹⁶ Interbank figures only. ¹⁷ Excludes Northern Ireland.

Table 11
Operating hours of selected large-value interbank funds transfer systems¹
(as of December 1999)

System	Gross (G) or net (N)	Opening- closing time for same day value (local time) ²	Settlement finality (local time) ³	Cutoff for all third-party payment orders	Cutoff for international correspondents' payment orders	<i>Memo item: Standard money market hours⁴ (local time)</i>
Belarus	G	8:30-19:30	19:30	17:00	na	<i>(8.30-17.30)</i>
Belgium⁵						
CEC	N	15:01-15:00	15:15	15:00	15:00	<i>(9:00-16:15)</i>
Clearing House	N	8:00-15:00	15:00	.	.	<i>(9:00-16:15)</i>
Canada⁶						
LVTS	N	7:00-18:30	19:30	18:00	18:00	<i>(7)</i>
France⁵						
PNS ⁸	N	8:00-16:15	8:00-16:15	16:00	16:00	<i>(9:00-17:00)</i>
Germany⁵						
EAF	G/N	7:00-16:00	.	(9)	8:00 ¹⁰	<i>(8.30-18.00)¹¹</i>
Italy⁵						
Japan						
FEYCS	G/N	9:00-13:45	15:00	10:30 ¹⁰	10:30 ¹⁰	<i>(9:00-17:00)</i>
BOJ-NET	G ¹²	9:00-17:00	.	14:00	na	
Netherlands⁵						
Sweden⁵						
K-RIX	G	7:00-17:00	7:00-17:00	(13)	8:00 ¹⁰	<i>(9:00-16:15)</i>
Switzerland						
SIC	G	18:00-16:15 ¹⁴	18:00-16:15	15:00	8:00	<i>(9:00-16:00)</i>
United Kingdom⁵						
CHAPS Sterling	G	6:00-17:00	.	16:00	16:00	<i>(7:00-16:00)¹⁵</i>
United States⁶						
Fedwire	G	00:30-18:30	00:30-18:30	18:00	17:00	<i>(8.30-18.30)¹⁶</i>
CHIPS	N	00:30-16:30	18:00 ¹⁷	16:30	16:30	
European Union						
TARGET	G	7:00-18:00		17:00	na	<i>(7:00-18:00)</i>
Euro 1	G/N	7:30-16:00	16:30-16:45	16:00	na	<i>(7:00-18:00)</i>

Footnotes to Table 11

- ¹ Some systems make no explicit distinction between large-value and retail transactions and may be used to settle interbank transfers relating to a variety of underlying transactions. Some systems may also accept payment orders for a number of value days.
- ² The initialisation period for collateral pledging/valuation, setting of bilateral limits etc begins at 07:00. The payment message exchange period begins at 08:00.
- ³ For net settlement systems.
- ⁴ Money market hours indicated refer to the time period in which domestic interbank transactions are normally carried out. They therefore do not relate to particular interbank funds transfer systems.
- ⁵ Information on the EU-wide TARGET system (including its national components, namely, ELLIPS in Belgium, TBF in France, ELS in Germany, BI-REL in Italy, TOP in the Netherlands, E-RIX in Sweden and CHAPS Euro in the United Kingdom) is shown under European Union.
- ⁶ Eastern time.
- ⁷ No standard hours.
- ⁸ Previous SNP system changed to PNS (Paris Net Settlement) during 1999.
- ⁹ This is subject to arrangements between the correspondent banks.
- ¹⁰ SWIFT guideline; in practice it may be later.
- ¹¹ For settlement purposes it can be later.
- ¹² The system has been designed to allow participants to enter funds transfer instructions continuously, in which case settlement takes place on the central bank's books immediately. BOJ-NET, however, is also used to settle on a net basis.
- ¹³ Participants decide among themselves which cutoff times they will use for different types of third-party orders. Large-value payments can be made at any time of the day.
- ¹⁴ The system is open for input 24 hours a day. Settlement services are limited by the indicated opening and closing times. A value day starts at 18:00 local time on the previous business day and ends at 16:15 on the value day. Third-party payments may be entered for same day settlement until 15:00. Between 15:00 (cutoff 1) and 16:00 (cutoff 2) only cover (bank-to-bank) payments are accepted for same day settlement. From 16:00 to 16:15 transactions are restricted to the processing of lombard credits (collateralised loans from the Swiss National Bank at a penalty rate).
- ¹⁵ The Bank of England intervenes in the market as necessary at 09:45, 14:30 and 15:30, and may conduct a final round of operations with the settlement banks at 16:20.
- ¹⁶ Trading occurs among dealers for funds on deposit at Federal Reserve Banks (ie federal funds) as early as 6:30.
- ¹⁷ Payments over CHIPS become final on completion of settlement, which normally occurs between 16:30 and 17:00. Rules are designed to ensure that settlement takes place no later than 18:00.

Table 12
Features of selected securities systems
 (figures relate to 1999)

	Type ¹	Owner/manager ²	No of participants		Settlement of cash leg ³	Delivery ³
				of which direct		
Belarus						
Government securities	G,O	SE	48	48	N	N
Corporate securities	E,O	SE,O,B	44	44	N	N
Belgium						
NBB clearing	G,O	CB	166	166	G	G
CIK	E,O	B	57	57	G	N
Canada						
SSS ⁴	G,E,O	B,SE,O	78	78	N	G/N
DCS ⁵	G	B,SE,O	61	61	N	G
France						
RGV	G,O	B,SE	167	na	G	G
RELIT	G,E,O	B,SE	339	na	N	G
Germany						
Clearstream Banking AG	G,E,O	B,SE,O	322	322	N/G	G
Italy						
Securities settlement procedures:						
LDT	G,E,O	CB	279	279	N	N
CAT	G	CB	435	435	(⁶)	G
Monte Titoli	E,O	Monte Titoli	519	.	(⁶)	G
Japan						
JGB registration	G	CB	440	440	G/N	G/N
JGB book-entry	G	CB	377	377	G/N	G/N
Netherlands						
NECIGEF	G,E,O	SE	69	69	G	G
Sweden						
VPC	G,E,O	B+O	51	51	G/N	G
OM	O	O	57	57	N	N
Switzerland						
SECOM	G,E,O,	B	359	359	G	G
United Kingdom						
CGO ⁷	G,O	CB/SE	378	378	N	G
CMO	O	B,SE,O	60	60	N	G
CREST	G,E,O	B,SE,O	22,949	22,949	N	G
United States						
Fedwire	G	CB	9,936	9,936	G	G
DTC (SDFS) ⁸	E,O	B,SE,O	527	527	N	G

¹ G = government securities, E = equity, O = other. ² B = banks, CB = central banks, SE = stock exchange, O = other.
³ G = gross, N = net. ⁴ The book-based system of The Canadian Depository for Securities Limited (CDS). ⁵ The real-time, online debt clearing service of CDS, which commenced operation during August 1994. ⁶ Deliveries free of payments. ⁷ Gilt settlement migrated from CGO to CREST in July 2000. ⁸ Same day funds settlement.

Table 12 (cont)

	Delivery	Central securities depository	Cash settlement agent	Number of transactions (thousands)	Value of transactions (USD billions) ⁹	Ratio of transactions value to GDP (at annual rate)
Belarus						
Government securities	T	CB	SE	20.6	0.0015	0.16
Other securities	T	RCSD	SE	na	na	na
Belgium						
NBB Clearing	T+2+3 ¹⁰	NBB	NBB	121	2,270	9.7
CIK	T+3 ¹¹	CIK	NBB	242	76	0.3
Canada						
SSS ⁴	up to T+3	CDS	B ¹²	{ 24,400	{ 17,376 ¹³	{ 26.7
DCS ⁵	up to T+3	CDS	B ¹⁴			
France						
RGV	T to T+100	Euroclear France	CB	2,249	30,965	22.9
RELIT	T to T+30 ¹⁵	Euroclear France	CB	25,503	5,491	4.1
Germany						
Clearstream Banking AG	T+ 0-40	Clearstream Banking AG	CB	73,158	15,348	7.3
Italy						
Securities settlement procedures:						
LDT	T+2/T+3 T+5 ¹⁶	CAT + Monte Titoli	CB	38,553.3 ¹⁷	29,162 ¹⁷	28.3
CAT	T	CAT	(⁶)	501.4	3,111	3.0
Monte Titoli	T	Monte Titoli	(⁶)	na ¹⁸	na ¹⁸	na
Japan						
JGB registration	T+3	CB	CB	956.0	25,281	5.8
JGB book-entry	T+3	CB	CB	1,048.8	54,234	12.5
Netherlands						
NECIGEF	T+3	NECIGEF	CB	2,357	688	1.7
Sweden						
VPC	T+2, T+3 ¹⁹	VPC	CB	8,914	10,690	44.3
OM	T+3		CB	58,040	.	.
Switzerland						
SECOM	T+3	SIS	CB	11,676	2,571	10.4
United Kingdom						
CGO	T, T+1	CB	CB	2,062	55,634	37.2
CMO	T	CB	B, CB	334	3,782	2.6
CREST	T+1, T+5	na	B, CB	43,237	15,328	10.6
United States						
Fedwire	T	CB	CB	13,400	179,500	19.3
DTC (SDFS) ⁸	T+3	DTC	DTC	189,000	94,000	10.1

⁹ Converted at yearly average exchange rate. ¹⁰ T+2 for treasury bills; T+3 for bonds. ¹¹ The seller retains the responsibility for delivering securities. ¹² A single chartered bank. ¹³ Figures are for the 12 months ended 31 October 1998. ¹⁴ A single chartered bank, though not the same bank as for the SSS. ¹⁵ When processed by the "SLAB" system (special delivery service by bilateral agreement), delivery occurs the same day. ¹⁶ T+2 for government bills; T+3 for government and corporate bonds; T+5 for equities, warrants and convertible bonds. ¹⁷ Bilateral balances. ¹⁸ Data refer to bonds only. ¹⁹ Same day delivery and settlement is also possible under specific conditions.

Table 13
SWIFT traffic: intra-G10 message flows in 1999
(number of messages, in thousands)

From/to	BY	BE	CA	CH	DE	FR	GB	IT
BY	na	na	na	na	na	na	na	na
BE	na	9,273	264	2,168	2,992	2,830	8,245	1,360
CA	na	274	4,854	500	398	313	1,660	217
CH	na	1,381	427	10,203	5,111	2,668	5,910	1,851
DE	na	2,745	385	4,491	6,989	4,130	11,200	4,198
FR	na	2,409	334	2,037	4,561	16,805	8,400	3,265
GB	na	3,853	1,553	5,239	10,101	6,086	39,077	5,015
IT	na	1,190	181	1,702	3,721	3,656	6,347	2,524
JP	na	743	276	956	1,254	750	6,350	470
NL	na	3,197	144	1,555	4,038	1,455	6,139	776
SE	na	681	62	404	1,330	424	3,549	351
US	na	3,537	3,939	7,681	7,448	5,174	20,774	3,739
Total G10	na	29,284	12,420	36,938	47,944	44,291	117,652	23,766
Total non-G10	na	8,151	2,451	9,780	26,264	14,349	39,976	10,100
Total all countries	90	37,435	14,872	46,718	74,208	58,640	157,628	33,866

From/to	JP	NL	SE	US	Total G10	Non-G10	All countries
BY	na	na	na	na	na	na	60
BE	836	3,409	333	5,081	36,792	9,017	45,809
CA	336	127	58	4,932	13,668	2,861	16,530
CH	940	1,171	290	8,476	38,426	9,833	48,259
DE	1,338	3,262	900	9,767	49,407	24,272	73,679
FR	925	1,488	339	7,388	47,952	10,811	58,763
GB	6,988	3,983	2,274	24,528	108,698	30,067	138,764
IT	529	722	206	5,035	25,815	7,648	33,463
JP	5,967	257	109	9,775	26,908	10,216	37,124
NL	336	7,062	293	5,375	30,370	5,970	36,341
SE	134	405	3,048	2,582	12,971	4,695	17,666
US	8,704	3,941	1,628	41,716	108,283	73,701	181,984
Total G10	27,032	25,828	9,478	124,656	499,290	189,092	688,382
Total non-G10	11,752	7,161	4,472	75,319	209,776	160,678	370,455
Total all countries	38,784	32,989	13,950	199,975	709,066	349,770	1,058,836

Source: SWIFT.

Glossary

Automated system of interbank settlements (ASIS)	A part of the national payment system in Belarus including a set of procedures, hardware and software facilities that assure execution of interbank settlements of monetary obligations between banks of the Republic of Belarus.
ASIS participants	The National bank of the Republic of Belarus, commercial banks and financial institutions possessing a valid licence from the NBRB and complying with ASIS access requirements. Direct participant - a participant in the interbank funds transfer and settlement system holding a correspondent account with the NBRB and having direct access to the ASIS. Indirect participant - a participant in the interbank settlement system with no direct access to the ASIS that executes payments via a direct participant.
Belarus Interbank Settlement System (BISS)	A core component of the national payment system in Belarus assuring interbank settlements of urgent and large-value payments in real time and on a gross basis.
BelCard	A national payment system on the basis of plastic cards, making up a part of the NPSPC.
Central bank credit (liquidity) facility	A standing credit facility that can be drawn upon by certain designated account holders (eg banks) at the central bank. The loans typically take the form either of advances or overdrafts on the account holder's current account, which may be secured by a pledge of securities (also known as lombard loans), or of traditional rediscounting of bills.
Central securities depository	A facility (or an institution) for holding securities which enables securities transactions to be processed by book entry. Physical securities may be immobilised by the depository or securities may be dematerialised (ie so that they exist only as electronic records). In addition to safekeeping, a central securities depository may incorporate comparison, clearing and settlement functions.
Correspondent account with the NBRB	An account opened with the NBRB by a commercial bank for executing interbank settlements via the BISS and the clearing systems as well as other transactions with the NBRB.
Clearing/clearance	<ol style="list-style-type: none">1. A process of transmitting, reconciling and, in some cases, confirming payment orders or securities transfer instructions prior to settlement, possibly including the netting of instructions and the establishment of final positions for settlements.2. In the national payment system of Belarus, clearing is a set of procedures executed by the clearing system, including the process of transmitting, processing and netting of instructions in order to obtain final net totals (debit or credit positions) of each bank participating in the ASIS for subsequent final settlements via the BISS, and reflecting the results on the banks' correspondent accounts with the NBRB.
Clearing system	A set of procedures whereby banking and financial institutions present and exchange data and/or documents relating to funds or securities transfers to other financial institutions at a single location (clearing house). The procedures often also include a mechanism for the calculation of participants' bilateral and/or multilateral net position with a view to facilitating the settlement of their obligations on a net basis.
Clearing system in Belarus	One of the components of the ASIS assuring interbank multilateral settlements on a net basis.

Delivery versus payment	A link between a securities transfer system and a funds transfer system that ensures that delivery occurs if, and only if, payment occurs.
Final transfer	An irrevocable and unconditional transfer which effects a discharge of the obligations to make the transfer. The terms “delivery” and “payment” are each defined as a final transfer.
Finality of interbank settlement in the ASIS	In Belarus the interbank settlement is considered final and is not subject to cancellation after funds have been debited from the sending bank’s correspondent account with the NBRB and credited to the correspondent account of the beneficiary bank with the NBRB.
Gross settlement system	A transfer system in which the settlement of funds or securities transfer instructions occurs individually on an instruction-by-instruction basis according to the rules and procedures of the system.
Interbank funds transfers in the ASIS	Actions to transfer money between banks and/or non-banking financial institutions, starting from sending bank input of payment message into the ASIS, data processing in BISC computer facilities, receiving the outgoing payment message by the beneficiary bank and, finally, reflecting the processing results on the correspondent accounts of commercial banks with the NBRB.
Intrabank settlements	Settlements within one commercial bank between its customers as well as settlements between branches of the same bank.
Irrevocable funds transfer	A transfer which cannot be revoked by the transferor.
Multilateral net settlement position	The sum of the value of all the transfers a participant in a net settlement system has received during a certain period of time less the value of the transfers made by the participant to all other participants. If the sum is positive, the participant is in a multilateral net credit position; if the sum is negative, the participant is in a multilateral net debit position.
Multilateral net settlement system	A settlement system in which each settling participant settles (typically by means of a single payment or receipt) the multilateral net settlement position which results from the transfers made and received by it, for its own account and on behalf of its customers or non-settling participants for which it is acting.
National payment system on the basis of plastic cards in Belarus (NPSPC)	A set of rules, institutions, payment means, systems and technical and software facilities used for issuing bank plastic cards and assuring execution of a set of payment services with such cards.
Netting	An agreed offsetting of positions or obligations by participants. The netting reduces a large number of individual positions or obligations to a smaller number of positions or obligations. Netting may take several forms which have varying degrees of legal enforceability in the event of default of one of the parties.
Operator of the ASIS	The Belarus Interbank Settlement Centre, an entity owned by the NBRB, running automated hardware and software systems, assuring data transmission over telecommunication networks and processing data for interbank settlements in Belarus.
Payment	The payer’s transfer of a monetary claim on a party acceptable to the payee. Typically, claims take the form of banknotes or deposit balances held at a financial institution or at a central bank.
Payment instrument	Any instrument enabling the holder/user to transfer funds.
Payment system	Consists of a set of instruments, banking procedures and, typically, interbank funds transfer systems, that ensure the circulation of money.

Payment versus payment	A mechanism in a foreign exchange settlement system which ensures that a final transfer of one currency occurs if and only if a final transfer of the other currency or currencies takes place.
Queuing	A risk management arrangement whereby transfer orders are held pending by the originator or by the system until sufficient cover is available in the originator's clearing account or under the limits set against the payer. In some cases, cover may include unused credit lines or available collateral.
Settlement	An act that discharges obligations in respect of funds or securities transfers between two or more parties.
Transfer	Operationally, the sending (or movement) of funds or securities or of a right relating to funds or securities from one party to another party by: (1) conveyance of physical instruments/money; (2) accounting entries on the books of a financial intermediary; or (3) accounting entries processed through a funds and/or securities transfer system. The act of transfer affects the legal rights of the transferor, transferee and possibly third parties in relation to the money balance, securities or other financial instrument being transferred.