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**COMMITTEE ON PAYMENT AND SETTLEMENT SYSTEMS**

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**PAYMENT SYSTEMS IN TURKEY**

**Prepared by the Central Bank of the Republic of Turkey and the  
Committee on Payment and Settlement Systems of the  
central banks of the Group of Ten countries**

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## 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 - 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 all the G10 countries, and it has since produced yearly statistical updates for these countries. 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 Bank for International Settlements - separate volumes on their respective payment systems. The present volume, the first edition of the Red Book for Turkey, is a further step towards increasing our understanding of the way payment systems work in different countries.

Central banks have a strong interest in promoting safety and improving efficiency in payment systems as part of their overall concern with financial stability. Well-functioning payment systems enhance the stability of the financial system, lower transaction costs in the economy, promote the efficient use of financial resources, improve financial market liquidity and facilitate the conduct of monetary policy.

Many central banks have been influential in improving public understanding of the payment and settlement arrangements in their countries. They play a key role in domestic payment system development and, in many cases, operate large-value payment systems. The Central Bank of the Republic of Turkey has made a major contribution to modernising the payment and settlement infrastructure in Turkey. It continues to undertake major projects to upgrade its services with a view to providing secure, reliable and efficient interbank payment systems.

In recent years, issues relating to the economic efficiency and financial risks of all types of payment systems have assumed greater importance. We hope this volume will contribute to the general understanding and awareness of payment systems in Turkey, both domestically and internationally.

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## Introduction

As a result of an extensive structural adjustment and liberalisation process launched in the early 1980s, the Turkish economy grew strongly up to the early 1990s. The trend in recent years had pointed towards a return to the high-growth environment that existed at the beginning of the 1990s, with growth rates of 7.1% and 8.0% in 1996 and 1997, respectively, but the fallout from the global financial crises pushed growth down to 3.8% in 1998. The expected growth rate for 1999 is around 3%.

Liberalisation and structural adjustments had a significant impact on the financial sector. The policy changes created a competitive environment as banks were allowed to widen their range of activities and the conditions for foreign banks' entry into the domestic financial markets were liberalised. These changes provided the impetus for financial institutions in Turkey to make rapid strides in modernising their services. Major banks with a nationwide presence have completely automated their branches and have started providing improved levels of customer service through their POS and ATM terminals as well as through home banking services. In particular, payment services have improved substantially with the introduction of new technology. More recently, some of the major banks have started offering internet banking services.

The Central Bank of the Republic of Turkey (CBT) has played a leading role in the modernisation of services. In payment system services, the CBT has initiated a number of major projects to develop secure, reliable and efficient interbank payment and settlement systems. In particular, the Turkish RTGS system, TIC-RTGS, has given the financial system an efficient funds transfer system. The developments in the communications infrastructure and computer technology have helped the banks to improve services throughout the country. Users have been quick to adopt the new instruments and services.

## 1. Institutional aspects

### 1.1 General legal aspects

Although there are no laws dealing specifically with payment and settlement systems, a number of laws have a bearing on payment-related activities and institutions.

The *Central Bank Act* (Law No. 1715 enacted in 1930 and Law No. 1211 enacted in 1970) regulates the operations of the CBT, whose major functions and responsibilities derive from this Act – inter alia the exclusive right to issue banknotes in Turkey.

The *Banks Act* (Law No: 7129 enacted in 1958; replaced by Law No. 4389 enacted in 1999) regulates the business activities of all banks in Turkey. It lays down rules and procedures governing the incorporation, management, transactions, transfer, merger, liquidation and supervision of banks in order to protect the rights and interests of depositors. Its purpose is also to ensure the efficient functioning of the credit system by giving due consideration to confidence and stability in financial markets and the requirements of economic development. All banks operating in Turkey, whether local or foreign, are governed by the provisions of this Act.

Article 19 of the Banks Act makes it obligatory for all banks subject to this Act to become a member of the Banks Association of Turkey within one month of receipt of their operating licence.

The *Special Finance Houses Decree* (No. 83/7506 of the Council of Ministers, 1983) governs the establishment and operation of special finance houses. Under this Decree, such institutions have the right to collect deposits.

The *Cheque Act* (Law No. 3167 on “Arrangement of Payments by Cheque and Protection of Cheque Bearers”, 1985) governs all aspects of payment by cheque and provides the framework for issue,

acceptance and payment of cheques. Article 6 of the Cheque Act governs the establishment and functioning of the interbank clearing houses. Under the Central Bank Act, the CBT is responsible for their supervision.

The *Trade Act* (Law No. 6762, Articles 557–815, Commercial Paper, 1956) defines the form and usage of commercial paper and bills. This act also governs the use of promissory notes and cheques, which are used widely for commercial payments.

The rules and procedures governing participation in the national real-time gross settlement system (TIC-RTGS) are regulated by a special agreement between the CBT and the participating banks. The banks sign a protocol with the CBT agreeing to comply with the provisions of the *Operational Rules Book*. This defines the relationship between the CBT and the participating banks and between the participants in regard to the services provided by TIC-RTGS. In particular, it specifies the roles and responsibilities of various parties involved in the system.

## **1.2 The role of financial intermediaries**

Currently the financial sector in Turkey comprises 77 banks, six special finance houses and a large number of brokers and foreign exchange offices. However, the financial system is dominated by the banks, which have a nationwide branch network. Financial market reforms introduced in the early 1980s have led to diversification of financial activities. Before the reforms, banking in the country was tightly regulated. The entry of new banks was restricted and interest rates were controlled. Banks were not permitted to engage in activities such as merchant banking, investment banking and brokerage. Banks are now allowed to engage in such activities as securities underwriting and trading, establishing and managing mutual funds and securities custodian services.

Public banks and major private banks continue to have a significant share of banking business, but with the deregulation of banking activities a number of new entrants have started operations. Increased competition in the financial sector has resulted in the development of new products and services. These developments have been particularly significant in payment services.

In less than a decade there has been rapid growth in new payment-related services such as ACH payments, card payments, ATMs, POS networks, S.W.I.F.T. and the national RTGS system. The growth and spread of these services has been unexpectedly high, reflecting a high degree of public acceptance of these products as potential replacements for cash-based payments.

### **1.2.1 Banks**

Banks in Turkey are grouped into commercial banks and investment and development banks. As of 1999, there are 61 commercial banks (four public, 36 private and 21 foreign banks), and 16 development and investment banks (three public, 10 private and three foreign banks). The total number of branches of all banks was 7,273 as of December 1998. Until 1995 there was a trend decrease in the number of branches, but this was reversed in 1996: banks have started opening new branches to increase their deposits. Turkey has a universal banking system where banks are allowed to engage in all financial activities except leasing, which is carried out only by development and investment banks and non-bank financial institutions.

Commercial banks perform the more traditional banking operations such as deposit-taking, payment services, foreign exchange operations and marketing of securities and other financial products. They may be privately owned or state-owned, but there is no difference between them in terms of their activities. As the main financial intermediaries, commercial banks, with a nationwide branch network, provide most of the payment services. Sight deposits are mostly used for funds transfers and these deposits carry a low rate of interest. Banks offer cheque and card facilities for account holders. The commercial banks and special finance houses are members of the national RTGS system and interbank clearing houses (ICHs). Most banks have largely computerised their operations. Internet banking and home banking have been introduced by most major commercial banks in recent years. These services include a variety of technology-intensive applications such as online credit transfers,

online investment accounts, trading of government bonds, mutual funds and equities. Recently many banks have begun to offer customers a free real-time funds transfer service through TIC-RTGS.

The development and investment banks, defined in the Banks Act as banks which do not accept deposits<sup>1</sup>, operate in capital markets, funding investments by means of capital market instruments and channelling resources from international banks and funds. They carry out all banking operations, apart from deposit-taking, in both Turkish liras and foreign currency. They also provide investment advisory services and consultancy on transfer and merger issues, financial restructuring and efficient management practices in commercial enterprises. They also grant credits from their own funds and other funds under their management; they can offer cheque accounts and participate in ICH clearing.

Under Article 20 of the Banks Act, non-deposit-taking banks are not subject to its provisions relating to: deposits; general lines of credit and loans to affiliates, shareholders and employees; subsidiaries; the prohibition of commodities trading and real estate transactions; and the Savings Deposits Insurance Fund. However, they are subject to the provisions relating to the contributions to be deposited in the Savings Deposits Insurance Fund by the founders of a bank upon establishment and amount to be deposited in the Fund upon gaining permission for an assignment of shares. They are also subject to the requirement that 50% of fines imposed by the government or courts on account of violations of the provisions of the Banks Act be paid to the Fund.

Development and investment banks' total paid-in capital may not be less than two-thirds of that stipulated for other banks (currently TRL 25 trillion). Funds obtained by such banks from other banks or their own borrowers in accordance with general provisions are not deemed to constitute a deposit.

### **1.2.2 Special finance houses**

Special finance houses (SFHs) operate pursuant to the Special Finance Houses Decree (No. 83/7506). Similar to commercial banks, they can collect deposits in Turkish liras and in foreign currency. However, they operate on profit/loss sharing principles and do not pay interest on deposits. The SFHs and their customers determine the profit/loss sharing conditions. They participate in clearing and settlement in the same manner as other banks.

Currently, there are six special finance houses in Turkey and their share in the total financial system is around 2%.

### **1.2.3 The Post Office**

The Post Office (the General Directorate of Post, which comes under the Ministry of Transportation) plays a significant role in providing payment and remittance services to customers all over Turkey. With 16,984 Post Office branches spread over all parts of the country, it is widely accessible to the public for a variety of payment services. The Post Office offers cheque accounts and money order services. The money order facility can be used for remitting money all over the country. All Post Office branches offer money order facilities and beneficiaries are not required to have an account with the Post Office. In 1998, 12.8 million money orders worth TRL 96,736 billion were processed by the Post Offices. In addition to these services, Post Office branches can issue domestic travellers' cheques, change foreign currency and receive postal money orders from abroad.

## **1.3 The role of the central bank**

The CBT was established in 1930 under the Central Bank Act (Law No. 1715). Its functions remained unchanged until 1970, when a new law (Law No. 1211) was enacted. This basically contained

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<sup>1</sup> Funds provided to the investment and development banks by other banks and other lenders (e.g. short- and long-term investors and international institutions) in accordance with the general provisions are not considered as deposits.

provisions on monetary policy instruments such as open market operations and also enabled the CBT to limit advances to the Treasury.

The head office of the CBT is in Ankara. The CBT has 21 branches in Turkey and four representative offices abroad, in New York, London, Frankfurt and Tokyo.

### **1.3.1 General responsibilities**

The CBT carries out monetary and credit policy in accordance with the needs of the economy so as to maintain price stability, taking into consideration the development plans and annual programmes of the government. The main functions of the CBT are:

- to take necessary measures jointly with the government to protect the domestic and international value of the national currency;
- to regulate the volume and circulation of the national currency;
- to conduct open market operations in order to regulate the money supply and liquidity in the economy;
- to determine the terms and types of deposits, and to extend credit to banks according to the statutory principles and limits;
- to monitor the banks' compliance with all the arrangements the CBT makes under the powers and duties given to it by the legislation in force;
- to determine the parity of the national currency against gold and foreign currencies;
- to manage gold and foreign exchange reserves in the interests of the economy;
- to trade in foreign exchange and precious metals on the stock exchange;
- to administer and represent the Savings Deposits Insurance Fund.

The CBT has the exclusive right to issue banknotes in Turkey. It has no control over transfers of foreign currency into and out of Turkey. The CBT's objective and role in payment system arrangements is to ensure a reliable, effective, broad-based and low-cost system.

### **1.3.2 Administration of accounts**

The Treasury, banks, financial institutions (SFHs, exchange offices), public entities (state-owned economic enterprises, ministries) and international organisations (IMF, World Bank, Asian Development Bank) hold accounts with the CBT. Accounts do not bear interest, and are used for funds transfers between the account holders as well as for settlement of obligations arising from interbank clearing systems. Banks hold giro accounts, reserve requirement accounts and TIC-RTGS accounts. Giro accounts are mostly used for cash withdrawal and for interbank transfers in the event of a technical problem with the RTGS system. The funds maintained in giro accounts are usually a small portion of the total bank funds deposited with the CBT. A separate account, the TIC-RTGS account, is used for payments routed through TIC-RTGS. Banks' reserve requirements accounts are separate from settlement accounts, although funds may be transferred between different accounts whenever required.

Accounts are decentralised and the account holders may have accounts with more than one branch of the CBT. These accounts are controlled exclusively by their holders and debits from them may be made only on the holders' instructions.

## 1.4 The role of other private and public sector bodies

### 1.4.1 Banks Association of Turkey

The Banks Association of Turkey (BAT) was founded in 1958 under Article 57 of the Banks Act (Law No. 7129, enacted in 1958). However, its duties and powers are revised in the new Banks Act (Law No. 4389, enacted in 1999). The BAT is a legal entity with the status of a public organisation and it is the representative body for all the banks operating in Turkey. According to its statute, the Association's main aim is to enhance the banking profession in Turkey, and to ensure that banks operate in compliance with the rules of solidarity and discipline. All banks operating in Turkey are legally bound to become members of the BAT. Banks are represented in the Association by their chairman, managing director or general manager.

The BAT is responsible for:

- ensuring the development of the banking profession;
- ensuring that banks function in a prudent and well-disciplined manner as required by the Association and the banking profession in order to meet needs of the national economy;
- adopting and implementing all measures necessary for the prevention of unfair competition among banks;
- determining the principles and conditions to be respected by banks in notices and advertisements in terms of their type, style, context and quantity, based on approval by the Banking Regulation and Supervision Agency.

The BAT monitors implementation of laws and regulations governing the banking industry as well as of its own decisions and measures, and takes any action required by the Agency.

The organisational structure of the Association consists of the General Assembly, the Board of Directors, the Secretariat General and the Auditors. The operations of the Association are executed through several structural and functional groups.

## 1.5 ISE Settlement and Custody Bank Inc. (Takasbank)

Takasbank is the central securities depository of Turkey, the settlement agency of the Istanbul Stock Exchange (ISE) and the national numbering agency for securities issued in Turkey. Takasbank was originally set up as a department of the ISE in 1988, with responsibility for settlement and custody. In 1991 it became an independent organisation and in 1995 it was converted into a bank. ISE members as well as institutional investors, investment funds and local custodians maintain custody accounts with Takasbank. It also provides full custody services to foreign institutional customers.

Takasbank carries out settlement of securities trades in all markets of the ISE. Settlement is on a delivery versus payment (DVP) basis and the system has been designed to settle both securities and funds on a net basis. As a part of its dedicated policy of contributing to the transparency and consistency of the securities market, Takasbank launched Customer Based Custody Services in February 1995. In this system, individual investors' sub-custody accounts are booked by certain account codes under the account of the institutions eligible to hold a custody account with Takasbank. However, the identity of the sub-custody account owner is not revealed to Takasbank. All members of the ISE have been obliged to participate in Customer Based Custody Services since October 1995. Takasbank is committed to establishing links with other central depositories, custodians, banks and financial institutions. It is also acting as an adviser to developing countries on setting up custody and settlement systems.

Takasbank has giro and TIC-RTGS accounts at the CBT. Payments in connection with securities transactions between Takasbank members are settled net in the Takasbank accounts. However, banks as well as Takasbank transfer funds through TIC-RTGS.

## **2. Payment media**

### **2.1 Cash payments**

Cash is the dominant retail payment medium in Turkey, although in recent years there has been an increasing tendency to use alternative payment methods. No exact figures are available for cash payments but households mostly use cash for their everyday payment requirements. However, the use of cash to pay wages, salaries and pensions is declining as an increasing proportion of such payments are being made by credit transfer.

The CBT is the sole issuing authority for banknotes with the status of legal tender. As of December 1998, notes are issued in denominations of TRL 50,000, 100,000, 250,000, 500,000, 1,000,000 and 5,000,000. The TRL 5,000,000 note has the largest share of the currency in circulation. Coins are issued by the Treasury. As of December 1998, coins are issued in five denominations: TRL 2,500, 5,000, 10,000, 25,000 and 50,000.

As of 1998, total banknotes and coins in circulation amount to TRL 1,057,863.5 billion. The share of cash in M1 (41.2% in 1998) illustrates the dominance of cash payments in Turkey. Cash withdrawals are made mainly from bank branches or cash dispensers. Banks encourage the use of ATMs for cash withdrawals and their usage is increasing. Some banks share their ATM networks and this has allowed small banks to offer ATM facilities to their customers.

### **2.2 Non-cash payments**

#### **2.2.1 Paper-based payments**

Traditionally, cheques and promissory notes were the commonly used non-cash payment instruments. However, in recent years other payment methods, notably electronic and card-based instruments, have increasingly supplanted the paper-based instruments.

#### **2.2.2 Cheques**

Banks and financial institutions provide a cheque account facility to their customers in accordance with the Cheque Act. Cheques are paid by the bank of issue directly or through clearing houses when they are presented by other banks. Cheques are free of collection charges for both the drawer and the payee, but if a cheque is paid by a branch other than the branch where the account is maintained an authorisation charge is usually levied.

Cheques are mostly used for interbank payments and for commercial payments. Interbank cheques constitute 51% of interbank payments in volume although in value terms they account for only 4.9% of total interbank transactions.

To facilitate electronic processing, cheques are coded with MICR (magnetic ink character recognition) code in E13B format. As per the existing practice, cheques must be collected and presented physically. However, attempts have been made to reduce the physical handling of cheques by encouraging cheque truncation practices. This procedure was introduced in 1998 and banks may adopt this practice on a voluntary basis (see Section 3.1.2 for further details).

Travellers' cheques are issued by banks and are not accepted for interbank clearing. Banks collect travellers' cheques and send them directly to the branch of the paying bank for payment.

#### **2.2.3 Postal cheques**

The Post Office provides postal cheque account facilities to any firm or individual. These accounts do not pay interest but are free of any commission charges for operations conducted through them. Postal

cheque accounts are used mostly by public institutions for collecting various types of tax and by companies for receiving payment instalments.

In 1998, there were 178,285 postal cheque accounts and 11.2 million postal cheques for a total value of TRL 59,215 billion were processed.

#### **2.2.4 Promissory notes**

Promissory notes are defined in the Trade Act. They are widely used like cheques in the small- and medium-sized business sector. They do not contain any bank information. They are signed by the two parties and indicate the amount to be paid and the value date. The beneficiary may obtain funds before the value date by having the promissory note discounted by a bank.

#### **2.2.5 Credit transfers**

Credit transfers are an increasingly popular means of transferring funds among customers. To make such transfers, customers are required to maintain sight deposits, which carry a low rate of interest.

There are two categories of credit transfer: (1) credits to other account holders with any bank, (2) credits to non-account holders. The first is an ordinary credit transfer operation between two accounts. The account holder gives a written transfer order, which is carried out if there are enough funds in the account. The second category of credit transfer enables funds to be sent to a beneficiary who does not maintain an account with any bank. In this case, the customer making the payment specifies the name of the beneficiary, the address and the bank/branch where the payment is to be made. When the transfer reaches the counterpart bank/branch, the beneficiary is notified of the remittance and can go to the branch and withdraw the money.

All intrabank and interbank credit transfers are processed electronically and online. Most branches receive credit transfer instructions from customers in written form and these are sent electronically to the final destination. Most banks also provide a credit transfer facility via ATMs, the internet or telephone.

Bank customers can issue standing orders for regular payments that are executed automatically on specified dates. The Post Office also provides credit transfer facilities to its account holders.

In 1998, 55,130,000 credit transfers<sup>2</sup> were executed, up by 6.85% from 1997, with 13,059,000 being processed via TIC-RTGS, 12,828,000 via the Post Office and 29,221,000 via the ICHs.

#### **2.2.6 Payment Cards**

##### **2.2.6.1 Credit cards**

Credit cards offer a cashless payment medium combined with revolving credit and a cash advance facility. These features have made credit cards very popular and their numbers are steadily rising. Cardholders are charged an annual subscription fee while the merchants pay a commission to the issuer. By the end of 1998, the total number of credit cards issued in Turkey was around 7 million, up from 4.8 million at end-1997, or by 45.8%. In recent years the number of credit cards provided to customers by banks and financial institutions has risen strongly. Credit cards were introduced in the early 1990s and therefore had a huge potential for rapid growth. In 1998, the total number of transactions inside and outside Turkey for cards issued by banks in Turkey was 240 million, for a total value of TRL 2,500 trillion.

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<sup>2</sup> Interbank transfers only; data on intrabank transfers are not available.

### 2.2.6.2 Debit cards

Debit cards are used to withdraw cash and to send remittances by debiting the holder's account. Some banks provide cards that may be used in EFTPOS terminals at merchant establishments. At the end of 1998, the total number of debit cards that can be used to access current accounts was 19.4 million. These cards have multiple functionality, including but not limited to retail purchases direct from current account via POS terminals, as well as cash withdrawal and balance inquiry via ATMs. As of end-1998, the number of POS terminals that accept debit cards totalled 107,335.

### 2.2.6.3 Prepaid cards

The most frequently used prepaid cards are phone cards issued by Turkish Telekom for making calls from public telephones and ticket cards issued by municipalities for travel on the metro and public buses. In 1997, TRL 13,325 billion worth of phone cards were sold.

Some municipalities of major cities such as Istanbul and Ankara are providing "intelligent tickets" for public transportation and the natural gas utility. These are in form of prepaid cards with magnetic stripes.

### 2.2.7 ATMs and POS terminals

At end-1998 there were a total of 8,363 ATMs installed in Turkey, representing a rise of 24% over 1997. Bank Card Centre (BCC) member banks have made significant investments in the payments infrastructure by installing POS terminals that authorise and record transactions at merchant outlets. At end-1998 there were 113,816 POS terminals, an increase of 94% over 1997.

## 2.3 Recent developments

In recent years, due to the advances in telecommunications and banking technology, the use of electronic transfers has risen strongly for both retail payments and high-value transactions. As a result of these developments, banks have vastly improved their service levels.

Some major banks have started offering home banking facilities via computer connections along with telephone banking facilities. Using these facilities, a customer can transact various types of banking operations, including the purchase and sale of securities, from home and only needs to go to an ATM to withdraw cash.

One interesting recent development is that some banks are offering RTGS transfer facilities free of charge to customers using internet services. Some banks are also developing electronic payment products such as smartcards for use in restricted areas such as fairs, sports complexes or university campuses.

## 3. Interbank exchange and settlement circuits

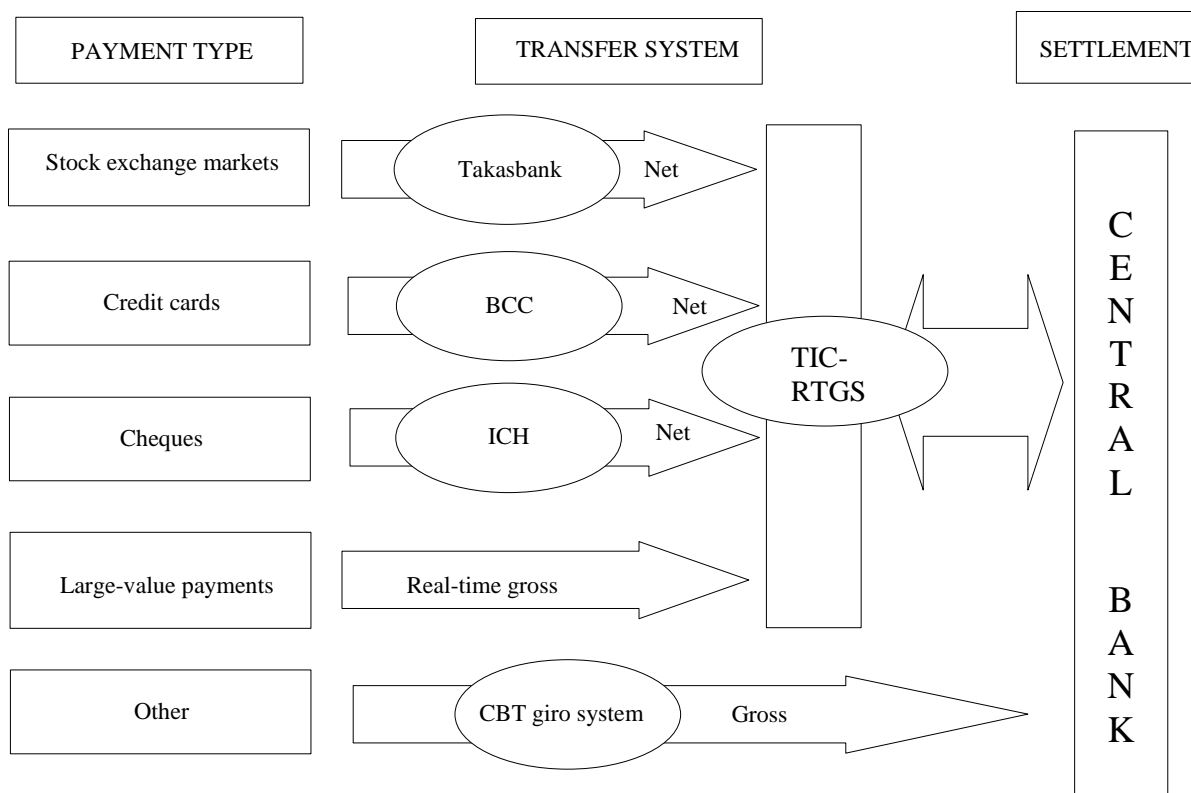
### 3.1 General overview

In Turkey, interbank payments are processed through the following systems:

- Turkish Interbank Clearing System (TIC-RTGS);
- CBT giro system;
- interbank clearing houses (ICHs);
- Bank Card Centre (BCC).



Chart 1  
**Organisation of the Turkish interbank payment**



TIC-RTGS is a real-time gross settlement system, whereas the CBT giro system is a simple gross settlement system. The ICHs and the BCC are deferred net settlement systems. Payment obligations resulting from stock exchange transactions are settled through the Takasbank net settlement system.

Regardless of the system used, all payments are finally settled in the books of the CBT. A separate account, the TIC-RTGS account, is used for settlement of interbank payments processed by TIC-RTGS. The ICHs and the BCC have special settlement accounts at the CBT. Banks monitor their liquidity position by reviewing the balances in all settlement accounts.

### 3.1.1 CBT giro system

Banks, financial institutions, public sector bodies and international organisations may maintain accounts at any or all branches of the CBT. The CBT giro system is used for credit transfers between different account holders and between the CBT's branches. These transfers are made electronically as all CBT branches are fully automated. The system operates on a gross basis and was widely used for interbank transfers before TIC-RTGS was set up. With most funds transfers now going through TIC-RTGS, use of the giro system has declined substantially. This is also due to the fact that under normal circumstances the CBT does not accept interbank payments from RTGS members outside TIC-RTGS. Currently the giro system, which carries a higher transaction cost, is used mostly by non-TIC-RTGS participants.<sup>3</sup>

However, giro accounts are actively used to maintain settlement balances. They provide daily initial values for the participants' TIC-RTGS accounts. At the start of the business day, the giro system sends a predefined portion of the account balance to the TIC-RTGS account. The amount is determined by

<sup>3</sup> A few banks and SFHs with a very low volume of interbank transactions do not participate in TIC-RTGS.

the participants themselves; generally they place 95% of their giro balance in TIC-RTGS. At the end of the business day, TIC-RTGS account balances are returned to the CBT's giro system and booked in the banks' giro accounts.

### **3.1.2 Interbank clearing houses**

#### *3.1.2.1 Rules and participants*

The Cheque Act defines an interbank clearing house (ICH) as a legal entity. Currently there are 22 clearing houses, of which 20 are located in cities where the CBT has branches and are operated by the CBT. Two clearing houses located in cities without a CBT branch are operated by Emlakbank, a large public bank. The Cheque Act also empowers the CBT to supervise and control the cheque clearing process nationwide. Where the CBT has no branch, it may delegate this authority to another appropriate bank. The CBT issues directives and regulates the functioning of all clearing houses, including those managed by other banks. All banks which provide cheque account facilities are members of an ICH.

Currently, the ICHs have a total of 70 members (59 commercial banks, five investment banks and six SFHs).

The Executive Board of the ICH Centre consists of a representative from the CBT (General Manager or Deputy General Manager of Banking Department) as chairman and representatives from 12 banks forming the Executive Board of the BAT.

ICHs are administered by a committee which consists of the CBT branch manager (or deputy branch manager) and three representatives from banks. Their operating expenses are recovered from member banks according to the banks' share in the total number of cheques processed over the year. Fixed expenditure on items such as acquisition of fixed assets, computer hardware or software is evenly distributed among member banks.

The CBT has the authority to exclude banks which do not pay their debts on time from the clearing houses, either temporarily or permanently.

The ICHs process Turkish lira cheques. The operations are carried out manually in 20 ICHs, and electronically in the ICHs in Ankara and Istanbul, which together handle almost 65% of the total volume of cheques cleared in Turkey.

Legally, cheques are required to be presented to the clearing houses physically. However, to improve the efficiency of the clearing process and to avoid the risks associated with the physical delivery of cheques, a new system of cheque truncation has been introduced recently. This allows cheques to be cleared without directly presenting them in the clearing house. This system is optional and is currently used by six banks and one special finance house. Banks wishing to use this facility are required to sign a protocol that sets out the procedures and defines obligations in the event of any legal dispute that may arise due to the non-physical presentation of cheques.

#### *3.1.2.2 Operation of the system*

In manually operated clearing houses, two meetings are arranged in each business day. At the morning meeting, which starts at 10:00, the banks present cheques received from their customers to the drawee banks. After receiving the cheques, the banks' representatives return to their banks to obtain payment authorisations and collect any cheques that have to be returned (unpaid) in the second meeting held at 14:30. After the returned cheques are processed, the net obligation of each bank is determined.

In non-automated clearing houses intracity cheques are cleared on the same day while intercity cheque clearance continues until the next day. However, in the Istanbul and Ankara clearing houses, which are automated, both intracity and intercity cheques are cleared on the same day.

In the electronically operated clearing houses in Ankara and Istanbul, banks transmit cheque information to the central computer of the clearing house round the clock. Information on cheques issued and received is transmitted by the banks up to 06:00. This information is stored in the central

computer and sent to the receiving banks at 06:00. On the basis of this information the banks start authorising the outgoing payments and physically deliver the cheques to the clearing house at 09:00 for presentation to the paying banks.

All the country's clearing houses send a list of their daily cheque clearance results to the CBT's Ankara branch for final settlement.

The volume and value of cheques processed in all ICHs are increasing. As of June 1999, a total of 13,068,194 cheques amounting to TRL 9,004,998 billion were processed in all ICHs. Computerisation of all ICHs and full elimination of physical exchange are the issues engaging attention.

### *3.1.2.3 Settlement*

The CBT's Ankara branch consolidates the lists received from all ICHs and determines the net debit or credit for each bank. The CBT maintains a separate settlement account for ICH settlements. Consolidated debits or credits are reflected in these settlement accounts. Banks are informed about the outcome by 18:00 each day.

Debtor banks have to settle their outstanding debit position by payment from their giro deposits at the CBT's Ankara branch or via TIC-RTGS not later than 12:00 on the following business day. Once all debtor banks have paid their debts, the Ankara branch makes payments to creditor banks.

### *3.1.3 Bank Card Centre*

The Bank Card Centre (BCC) was founded as a non-profit organisation by 13 major Turkish banks in 1990. As of 1998 it had 40 members (38 banks and two companies). The regulations require that a member should be either a bank or a VISA or MasterCard member.

The BCC is the service provider handling all activities related to the processing of credit card payments. It clears and settles all domestic credit card payments between banks, establishes the legal and administrative infrastructure, sets technology standards, issues a national combined warning bulletin and operates the BCC Switch System. The BCC also provides training and security services for its members.

The BCC Switch System started operations in 1993, enabling banks to make rational use of infrastructure and resources, typically by sharing networks and ATMs. The system's services include online credit card authorisation, stand-alone credit card authorisation, ATM and POS sharing for debit cards and gateways to external networks. Banks that share ATMs enable their debit cardholders to use each other's ATMs under bilateral agreements.

The BCC has a separate settlement account with the CBT under a special agreement. This account is used exclusively for credit card clearing. The BCC advises the banks and the CBT of each bank's net debit or credit position. Banks with a debit position send instructions to the CBT for payment out of their giro accounts. After these accounts have been debited, the payments are credited to the creditor banks. The CBT has no responsibility for credit card clearing other than providing settlement services. All debits and credits in the settlement account are booked on the basis of the details supplied by the BCC.

### *3.1.4 TIC-RTGS*

TIC-RTGS system is a real-time gross settlement system owned and operated by the CBT in which payment instructions in Turkish liras are executed and settled individually on a transaction by transaction basis in the participants' accounts at the CBT. TIC-RTGS was developed by the CBT between October 1989 and March 1992 and put into live operation in April 1992.

Currently, TIC-RTGS has 83 participants; in 1998, TIC-RTGS processed 13,059,000 messages for a value of TRL 454,024,291 billion.

## **3.2 Structure, operation and administration of major large-value systems**

### **3.2.1 Major legislation, regulations and policies**

There are no specific legal provisions governing payment systems in Turkey. However, the operational procedures, rights and obligations in TIC-RTGS are governed by private law agreements between the CBT, as the system operator, and the participants in the system. These are supported by procedures and rules documented in the *Operational Rules Book* and *User Guide*.

### **3.2.2 Participants in the system**

Currently only banks and special finance houses are allowed to participate in TIC-RTGS subject to prior approval from the CBT and BAT. The participants must be established in Turkey and maintain giro accounts with the CBT. It is not obligatory for all banks to participate in TIC-RTGS. Banks that do not participate in the system may transfer funds through one of the participant banks.

### **3.2.3 Types of transactions handled**

The TIC-RTGS system is used for interbank payments in Turkish liras relating to interbank operations, final settlements of cheque and credit card operations, and customer payments. Although there is no lower limit for a transfer, the system is mainly used for high-value transactions. Banks usually use the system to make large-value transfers relating to interbank payments such as money market and securities settlement transactions.

The system also provides facilities for the exchange of payment-related information messages between participants.

### **3.2.4 Operation of the transfer system**

TIC-RTGS is based on a V-shaped architecture where the entire message is sent to the TIC-RTGS Centre by the sending bank. A payment instruction embodied in the message is executed only if the sending bank has sufficient covering funds in its TIC-RTGS account. The relay computer located on the participant's premises will only forward the instruction once it has verified the availability of funds. A successful execution of the payment instruction will result in transfer of the payment between the sending and receiving bank across their TIC-RTGS accounts. The message is then forwarded in real time to the receiving bank.

All payments in TIC-RTGS are final and irrevocable. If an operational error occurs, the parties involved must resolve it bilaterally. Participants can check their TIC-RTGS accounts at any time during the business day from their relay computers and from the TIC-RTGS Centre. A number of reports can be obtained by the participants from their relay computers.

### **3.2.5 Operating hours**

A typical business day lasts about 22 hours. The system opens at 08:00 on Monday and operations, including the exchange of online messages, take place until 17:30. In the following two hours, the housekeeping process takes place and at 19:00 the system is ready to start processing the next day's business. TIC-RTGS is closed during weekends and national holidays.

Before initiating the end-of-day procedure, the TIC-RTGS Centre sends an "advance notice of online end" message to all participants. Once this message is received, a participant cannot enter a new message in its relay computer. After a five-minute grace period, the system starts closing operations, at the end of which the TIC-RTGS account values are transferred to the CBT account.

### 3.2.6 Transaction processing environment

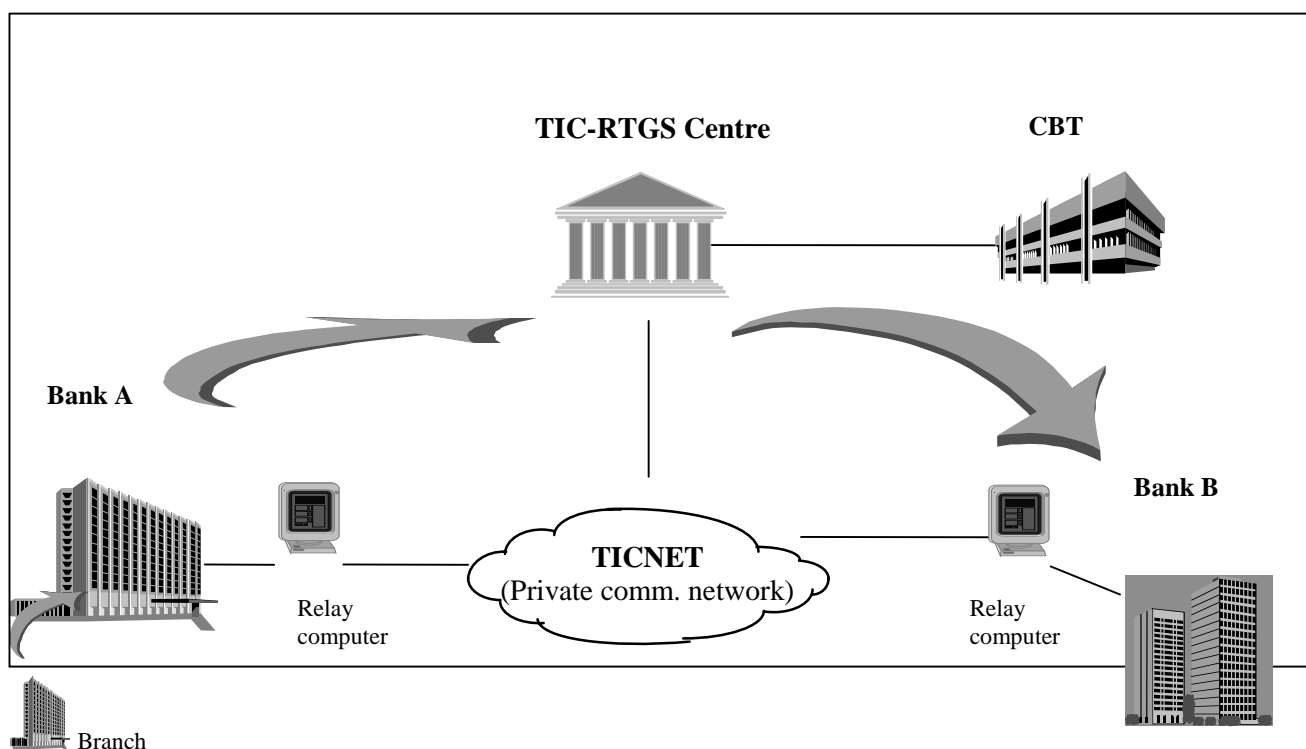
The TIC-RTGS system comprises a relay computer (RC) located on the participant's premises and a central computer system. Every participant, including the CBT, must have an RC to take part in TIC-RTGS. The RC systems, including alternative hardware configurations, software and upgrades and changes, are specified by the CBT. The RC provides the participant with message entry, fund verification and account enquiry facilities. The RC has a mirror copy of the central computer's reserve balances for a participant. This obviates the need for a query on the central computer. The CBT's RC has some additional facilities.

A participant's host computer can be integrated into TIC-RTGS through a connection to the RC. In this way, a host terminal can be used to generate payment messages.

The TIC-RTGS Centre has a fault-tolerant computer system with redundant backup facilities. System upgrades and maintenance can be performed without interrupting operations. Apart from the production system, there are separate test and development systems for system development and maintenance.

If participants lose their online connectivity, alternative arrangements are available to enable them to send their transactions to the host system via magnetic tapes prepared on their RC, or in the event of failure of the RC transactions can be entered directly in the host system. Similarly, the TIC-RTGS Centre can send messages to such failed participants on tapes or by fax.

Chart 2  
TIC-RTGS system configuration



RCs are connected to the TIC-RTGS Centre via a private network called "TICNET". Participants access TICNET nodes through leased telecommunication lines. TICNET is operated by the CBT and its operating costs are shared by the participants. The public packet-switching X.25 network, TURPAK, supports TICNET as a backup.

A high degree of security is provided in TIC-RTGS. Multilevel security controls have been implemented to ensure the integrity, authenticity and confidentiality of transactions. Data transfers between RCs and TIC-RTGS are secured by using data encryption.

### 3.2.7 Settlement procedures

All messages received at the TIC-RTGS Centre are executed immediately; settlement is final and irrevocable. TIC-RTGS accounts are used for settlement: initial values for these accounts are transferred from participants' giro accounts at the CBT at the beginning of each business day and are continuously updated. The balances are updated by incoming and outgoing payments as well as transfers to and from a bank's giro (free) account with the CBT. A bank can request a transfer from its free account at any time during the business day. At the end of the day, the balances in TIC-RTGS accounts are transferred back to participants' giro accounts at the CBT (see also Section 3.1.1).

Payments are made available to the recipient immediately after settlement in the TIC-RTGS account. The *Operational Rules Book* of the TIC-RTGS system recommends that customer accounts be credited the same day.

### 3.2.8 Pricing policies

In principle the CBT aims to recover the actual operating cost and the investment cost of setting up the system. Fees are transaction-based and charged to the sending participant.

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#### TIC-RTGS pricing structure, 1999\*

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Up to TRL 1.5 billion (USD 4,785)	TRL 37,500 (USD 0.1)
TRL 1.5 billion - 150 billion (USD 4,785 – 487,507 )	0.000025 × payment amount (USD 0.1 – 11.9)
Over TRL 150 billion (USD 487,507)	TRL 3,750,000 (USD 11.9)
Non-payment transaction	TRL 37,500 (USD 0.1)

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\* The USD exchange rate at end-1998 was TRL 313,475.

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To encourage the use of TIC-RTGS for funds transfers, the CBT charges higher fees for paper-based operations than for payments via TIC-RTGS. In addition to the transaction fees, there are communication network-related expenses, which are shared equally by all participants. The BAT coordinates maintenance and expense sharing for the RCs and network support.

### 3.2.9 Credit and liquidity risks and their management

#### 3.2.9.1 Credit risk

In TIC-RTGS, payment instructions are executed only if there are sufficient funds in the participant's TIC-RTGS account. There is no credit risk for any payments accepted in the system and recipients are notified after the payments are settled.

#### 3.2.9.2 Intraday credit

In order to keep TIC-RTGS operating smoothly and provide liquidity so as to enable the banking system to perform time-limited payments in advance, in July 1999 the CBT started providing interest-free daylight overdrafts to the banks against collateral within their interbank borrowing limits. The

banks may request an overdraft between 09:00 and 15:00. The overdraft has to be covered by the end of the day, otherwise it is converted into a penalised overnight credit.

### **3.3 Main projects and policies being implemented**

The CBT is currently implementing two projects: TIC-RTGS Second Generation and the Electronic Securities Transfer and Settlement (ESTS) System (see Annex).

## **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 General overview***

Currently, there are 21 foreign banks (subsidiaries or branches of banks incorporated abroad) in Turkey. As a result of globalisation and financial deregulation, the number of international banks in Turkey is increasing rapidly. Turkish banks also have an extensive presence abroad. International transfers of both small- and large-value payments are mainly handled by the banks. The Post Office and credit card companies are also involved in small-value international payments. Like the banks, the CBT uses the S.W.I.F.T. system for foreign currency transactions.

#### ***4.1.2 Cross-border payments***

International payments are mostly transmitted through S.W.I.F.T., which was introduced in Turkey in 1989. As of 1998, 73 financial institutions in Turkey participated in this network, including 55 member banks. In 1998, a total of 4,303,727 messages were sent via S.W.I.F.T. Banks may use either their foreign offices or correspondent banks for making cross-border payments.

#### ***4.1.3 Retail payments (credit and debit cards)***

Retail payments are made not only via banks, but also via credit card companies and the Post Office. Credit card payments are settled through the credit card companies. At the end of 1998, credit and bank cards issued by foreign banks had been used in Turkey for 11 million transactions for a total value of TRL 257 trillion. As a result of credit card and bank card transactions in the payment card system, BCC members have been instrumental in generating a considerable net foreign exchange inflow into Turkey.

#### ***4.1.4 Post Office remittances***

Cross-border remittances can be sent and received via the Post Office. There are agreements and contracts with its counterparts in 16 countries, and remittance is accepted only from them. Since there is no postal bank in Turkey, settlement is carried out via a correspondent bank. The Post Office mostly receives remittances from Turkish workers abroad. But due to the increasing number of Turkish bank branches abroad and the presence of foreign banks in Turkey, there has been a significant decline in the usage of the Post Office for international transactions.

#### **4.1.5 Travellers' cheques**

Travellers' cheques are widely bought and sold in Turkey. Foreign banks issue travellers' cheques in all major currencies. Foreign currency travellers' cheques are encashed by directly presenting them to the paying bank.

### **4.2 Exchange and settlement systems for securities**

#### **4.2.1 General overview**

A number of legal and institutional arrangements have been introduced to foster the development of the securities markets. The reform process began in 1981 with the enactment of the Capital Market Law, subsequently amended with a view to regulating and supervising capital markets. With the introduction of some tax advantages to develop the securities markets, several corporations started issuing securities.

#### **4.2.2 Istanbul Stock Exchange**

The Istanbul Stock Exchange (ISE) was reopened in 1985 and began operation in 1986. This was a key step in development of secondary markets for securities. The ISE became a full member of the International Stock Exchange Association and the International Securities Market Association in 1992. Within the Bill and Bond Market under the auspices of the ISE, one of the world's first organised repo markets began operation in 1993. The "Right Coupon Market" was also included in the system.

#### **4.2.3 Interbank money markets**

The interbank money market was established in 1986. Lending and borrowing operations in this market are effected through the CBT, which performs the role of blind broker. The CBT can also borrow and lend in this market in order to regulate liquidity in the system. The foreign exchange and banknote market has seven separate market segments: domestic currency against foreign exchange; domestic currency against foreign banknotes; foreign exchange against foreign exchange; foreign exchange against foreign banknotes; foreign exchange deposits against foreign exchange deposits; foreign banknotes against foreign banknotes; and finally domestic currency deposits against foreign exchange deposits.

#### **4.2.4 Open market operations**

Since May 1985, the Treasury has been issuing government securities through auctions held by the CBT. To regulate liquidity in the money market in line with the monetary policy targets, the CBT engages in outright buying and selling of government securities as well as repo and reverse repo transactions. To this end, the open market operations desk at the CBT became operative in 1987 with the establishment of various markets conducted by the CBT.

#### **4.2.5 CBT securities settlement system**

The CBT manages the issuance of short- and medium-term debt instruments on behalf of the Treasury, including short-term treasury bills and long-term government bonds. The physical security certificates are printed at the CBT. They usually do not leave CBT premises but are held on behalf of the owners at the CBT branches in Ankara, Izmir and Istanbul, where the banks have their securities deposit accounts, inter alia to hold collateral for their operations in the markets.

Banks use the TIC-RTGS system to submit their bids, pay their deposits and pay for their securities on settlement day. Payments for returned deposits are also made by the CBT within the TIC-RTGS system. The securities transfer does not take place before the funds transfer is complete. On receipt of the securities transfer request, the CBT's host computer performs the transfer between securities



accounts and informs the parties concerned about the result of the operation by sending special TIC-RTGS information messages.

Future developments include setting up the Electronic Securities Transfer and Settlement (ESTS) System. Once this is linked to TIC-RTGS, real-time DVP can be implemented (see Section 3.3.2 for details).

#### **4.2.6 Capital market and bond market settlement**

Settlement of equity and bond trades is carried out by ISE Settlement and Custody Bank (Takasbank). See Section 1.5 for details.

## **5. The role of the central bank in interbank settlement systems**

### **5.1 General responsibilities**

#### **5.1.1 TIC-RTGS**

TIC-RTGS, the national interbank payment transfer and settlement system, was developed and is operated and supervised by the CBT.

The CBT is responsible for:

- operating the system and providing technical and help desk support to the participants;
- setting up the legal and operational framework of the system;
- auditing and controlling the system as a whole;
- investigating changes in participants' requirements and the need for improvements to the system, and planning development in coordination with the participants and the BAT;
- assessing new trends and needs in the banking sector and their implications for the development of the system.

#### **5.1.2 System development**

Finance, technical coordination and project management for the TIC-RTGS system was carried out by the CBT. The CBT has been operating the system since 1992 with both technical and operational responsibility. With the planned implementation of the second-generation TIC2-RTGS, enhanced services will be available to the users (see Section 3.3). The CBT is responsible for the development and implementation of TIC2-RTGS.

### **5.2 Provision of settlement (and credit) facilities**

#### **5.2.1 Use of central bank accounts for payments**

Banks, financial institutions, some brokerage houses and exchange offices hold cash accounts at CBT branches. The funds in some of these accounts are used for liquidity requirements and for operations in financial markets. Cheques can be drawn on these accounts.

#### **5.2.2 Use of central bank accounts for securities transactions**

Banks hold securities accounts at CBT branches. Only securities listed in the Official Gazette (i.e. treasury bills and government bonds) may be held in these accounts in book entry form. Securities

in some of these accounts are counted towards banks' liquidity requirements. On the other hand, securities in some of these accounts are used as collateral for operations in the CBT interbank money market and foreign exchange and banknote markets. The CBT sets operating limits for banks for each financial market. Each transfer of securities from collateral accounts is authorised by the CBT in order to prevent banks exceeding the defined limit.

### **5.3 Monetary policy and payment systems**

The CBT aims at keeping the net domestic assets item of its balance sheet within the limits established by monetary policy and to minimise fluctuations in the exchange rate and interest rates. It also aims at adjusting liquidity in such a way as to avoid disturbing market stability. The CBT makes use of open market operations, the interbank money market and the foreign exchange market to maintain financial stability.

#### **5.3.1 Main policies and projects being implemented**

The CBT is developing the Electronic Securities Transfer and Settlement (ESTS) System to process book entry securities on a real-time DVP basis in conjunction with the TIC-RTGS system (see Annex). The TIC-RTGS system will be enhanced with added functionality, mainly to support disaster recovery via a backup centre (see Annex).

## Annex

### Ongoing projects

#### 1. Second Generation TIC-RTGS (TIC2-RTGS)

This project aims to integrate a disaster recovery facility in the TIC-RTGS system and add a set of further enhancements to the current operations.

The TIC2-RTGS system will introduce the following main features:

- a *backup TIC-RTGS Centre* that will be able to replicate the operation of the main Centre within one hour of a complete system failure, without losing any messages;
- a *queuing mechanism* that: enables messages to be sent to the Centre ahead of time; defines the sequence of message processing; reserves funds for high-priority messages; and automatically advises of potential gridlock due to insufficient funds available for a specific transaction;
- a *corrective direct debit* that can be applied by the CBT to transfer a participant's funds in the TIC-RTGS system to the participant's giro deposit account in the event of failure to access the system;
- a *bank direct debit* that allows debit request transactions between two participants;
- *phased online end operation* in the TIC-RTGS Centre, which will allow the daily closing process to be phased by message type;
- a *business level acknowledgement* that is optionally used for informing the sender of the successful arrival of the message at its destination;
- *backup relay computer (RC)* systems that will allow participants to switch to a backup facility in the event of a failure of their principal RC system;
- *bulking* that will enable both high- and low-value payments to be settled in the same system with the same user interfaces but with different settlement procedures.

#### 2. Electronic Securities Transfer and Settlement (ESTS) System

The CBT, being responsible for managing bill and bond issuance on behalf of the Treasury, plans to establish a new computerised system to provide participants with a secure and reliable online environment for settling transactions in government securities against payment. The CBT eventually aims to dematerialise all securities by converting them to a book entry ESTS System.<sup>4</sup> This new system will provide an accurate and up-to-date picture of the accounts of all participants. This will help in eliminating time-consuming reconciliation of figures. The system will also provide a unified settlement facility, replacing several existing systems.

##### *Overview of the ESTS System*

The ESTS System will have a real-time connection to the TIC-RTGS system so that funds management resulting from securities transfers can be performed quickly and efficiently. This will also help in the early detection of those transactions where transfers could not be made due to

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<sup>4</sup> ESTS is a settlement system not a trading system. ESTS does not itself conduct the auction process, but handles the result (this is also true for open market operations).

insufficiency of funds. The ESTS System will support the CBT's open market operations as well as the secondary market operations – both interbank transfers and those between commercial banks and the CBT. The system will have facilities for implementing a matching mechanism between the seller and the buyer before the actual securities transfer takes place. Also provided are tools whereby participants in the system, as well as the CBT, will have an up-to-date picture of the accounts without having to resort to time-consuming manual procedures, as is currently the case.

Once a security is introduced into the ESTS System, the system will automatically keep track of it and perform all the necessary operations throughout the life cycle of the security, including periodic interest payments and final payment on maturity .

The ESTS System will permit conversion of paper securities to electronic form and vice versa. In other words, securities in the ESTS System can be taken out of ESTS and issued in paper form to investors who require them in this format. Similarly, securities that are available in paper form may be entered into the electronic system once the holder physically submits them to a CBT branch.

#### *Principles of operation*

ESTS will be implemented as a separate, independent system that will operate in conjunction with the TIC-RTGS system. The securities transaction will be executed on a DVP basis.

The only participants in ESTS will be the CBT and the banks that are users of TIC-RTGS. Parties other than these will have access to ESTS via a participant bank.

ESTS is a settlement system and not a trading system. Transactions in this system will start once a deal has been concluded between the participants.

#### *Scope of operation*

The ESTS System will handle Turkish government securities, basically government bonds<sup>5</sup> and treasury bills.<sup>6</sup>

Although it is anticipated that the scope of ESTS will be limited to these two types of securities, the system may be required in the future to handle other types of securities, such as those indexed to the exchange rate of a foreign currency or to the gold price.

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<sup>5</sup> These are issued by the government with a maturity of one to five years.

<sup>6</sup> These are issued by the CBT via the auction process. As they are short-term instruments (usually with a maturity of three, six or nine months), there is no intermediate interest payment. Similar to bonds, bills are bearer instruments.

## List of abbreviations

BAT	Banks Association of Turkey
BCC	Bank Card Centre
CBT	Central Bank of the Republic of Turkey
ESTS	Electronic Securities Transfer and Settlement System
ICH	Interbank Clearing House
ISE	Istanbul Stock Exchange
SFH	Special Finance House
TIC-RTGS	Turkish Interbank Clearing System
TIC2-RTGS	TIC-RTGS Second Generation Project



## **Statistical tables**





## Statistical tables

Table 1  
Basic statistical data

	1994	1995	1996	1997	1998
Population (millions):					
<i>year-end</i>	61.18	61.64	62.69	63.75	64.82
GDP (TRL trillions)	3,868.4	7,762.5	14,772.1	28,835.8	51,625.1
GDP per capita	63,229,813	125,932,835	235,637,262	452,326,274	813,253,625
Exchange rate (TRL vis-à-vis USD):					
<i>year-end</i>	38,418	61,054	107,505	204,750	312,720
<i>average</i>	29,825	45,712	81,308	151,559	260,914

Table 2  
Settlement media used by non-banks  
(at year-end, in billions of TRL)

	1994	1995	1996	1997	1998
Notes and coin	102,328.4	189,465.2	319,024.0	610,871.0	1,057,863.5
Transferable deposits <sup>1</sup>	128,518.5	198,719.3	577,830.6	970,339.0	1,504,614.6
<i>of which:</i>					
<i>sight savings deposits</i>	34,538.2	54,611.7	133,776.1	236,498.5	326,003.6
<i>sight commercial deposits</i>	79,828.3	120,677.4	376,397.3	572,771.6	877,452.8
<i>other</i>	14,152.0	23,430.2	67,657.2	161,069.5	301,158.2
Narrow money supply (M1)	230,846.9	388,184.5	896,854.6	1,581,210.0	2,562,478.1
<i>Memorandum item:</i>					
Broad money supply <sup>2</sup> (M3)	668,533.3	1,337,217.5	3,159,687.2	6,139,428.3	12,037,538.0

<sup>1</sup> Sight deposits in Turkish lira. <sup>2</sup> M3 = M2 + official deposits (time/sight) + other CBT deposits.

**Table 3**  
**Settlement media used by credit/deposit-taking institutions**  
(in billions of TRL)

	1994	1995	1996	1997	1998
Reserve balances held at central bank*	160,368.2	278,885.7	580,425.7	1,169,709.5	2,147,382.3
Deposits at other institutions	–	–	–	–	–
<i>Memorandum item:</i>					
Required reserves	122,542.5	250,873.4	450,875.8	917,008.1	1,648,020.9
Central bank domestic credits:					
<i>Public sector</i>	148,207.8	193,521.3	373,195.7	339,199.4	1,559.3
<i>Banking sector</i>	12,322.3	12,249.2	7,688.7	7,675.8	7,539.1

\* Identical with Table 2.

**Table 4**  
**Banknotes and coin**  
(at year-end, in billions of TRL)

	1994	1995	1996	1997	1998
Total banknotes and coin issued	122,370.1	227,436.4	390,943.5	780,036.5	1,369,607.9
Denomination of banknotes:					
<i>5,000,000</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	544,553	1,104,744
<i>1,000,000</i>	<i>n.a.</i>	154,274	315,031	148,695	151,016
<i>500,000</i>	86,912	38,363	33,179	31,446	34,440
<i>250,000</i>	19,243	15,432	16,920	15,074	18,635
<i>100,000</i>	7,237	8,840	9,875	12,395	15,172
<i>50,000</i>	3,854	4,262	5,541	5,805	3,648
<i>20,000</i>	1,607	1,923	1,234	482	<i>n.a.</i>
Banknotes and coin held by credit institutions	20,041.7	37,971.2	71,919.5	169,165.5	311,744.9
Total banknotes and coin outside credit institutions	102,328.4	189,465.2	319,024.0	610,871.0	1,057,863.5

Table 5  
**Institutional framework**  
 1998

Categories	Number of institutions	Number of branches	Number of accounts (thousands) <sup>1</sup>	Value of accounts (TRL billions) <sup>1</sup>
Central bank	1	21	–	2,121,676.7 <sup>2</sup>
Commercial banks:	60	7,340	55,554.3	24,185,291
<i>Public</i>	4	2,832	27,109.8	9,837,857
<i>Private</i>	38	4,393	28,069.8	13,698,774
<i>Foreign</i>	18	115	364.7	648,660
Development and investment banks:	15	30	–	–
<i>Public</i>	3	12	–	–
<i>Private</i>	9	14	–	–
<i>Foreign</i>	3	4	–	–
Special finance houses	6	121	–	686,169
Money exchangers	–	–	–	–
Post Office	1	16,984	178.2	3,784

<sup>1</sup> Year-end values. <sup>2</sup> Total of banks' reserve requirements and giro reserves.

Table 6  
**ATMs and EFTPOS terminals**

	1994	1995	1996	1997	1998
ATMs:					
<i>Number of networks</i>	1	1	1	1	1
<i>Number of machines</i>	4,023	4,656	5,477	6,735	8,363
<i>Volume of transactions (millions)</i>	–	–	–	203,579	255.7
<i>Value of transactions (TRL billions)</i>	–	–	–	2,059	4,541.2
EFTPOS:					
<i>Number of networks</i>	1	1	1	1	1
<i>Number of terminals*</i>	16,135	24,951	35,056	58,636	113,816
<i>Volume of transactions (millions)</i>	–	–	74	124,571	–
<i>Value of transactions (TRL billions)</i>	–	–	236,684	672,911	–

\* Online and offline terminals.

Source: BCC press bulletin.

Table 7  
**Number of payment cards in circulation**

	1994	1995	1996	1997	1998
Cards with a debit/credit function	11,935.9	15,325.7	18,174.2	23,246.7	26,416.4
<i>of which:</i>					
<i>cards with a debit function</i>	10,468.8	13,175.2	15,037.2	18,399.5	19,359.8
<i>cards with a credit function</i>	1,467.1	2,150.5	3,137.0	4,847.2	7,118.3
Retailer cards	–	–	–	–	–

Source: BCC press bulletin.

Table 8  
**Payment instructions handled by selected payment systems:  
 volume of transactions**

(in thousands)

	1994	1995	1996	1997	1998
Turkish Interbank Clearing System (TIC-RTGS)	2,570	4,160	6,640	10,184	13,059
CBT giro system	–	–	22	22	22
Interbank clearing house*	19,480	19,083	22,599	27,172	29,221
Post Office:	43,480	37,414	28,713	25,713	24,063
<i>Postal money orders</i>	24,309	19,815	15,682	14,217	12,828
<i>Postal cheques</i>	19,227	17,599	13,031	11,496	11,235

\* Total for all (22) cheque clearing houses.

Table 9  
**Payment instructions handled by selected payment systems:  
value of transactions**  
(in billions of TRL)

	1994	1995	1996	1997	1998
Turkish Interbank Clearing System (TIC-RTGS)	18,345,790	37,957,400	81,694,500	191,952,936	454,024,291
CBT giro system	–	–	–	–	–
Interbank clearing house*	1,122,142	2,242,619	4,286,678	8,605,397	14,900,958
Post Office:	41,312	65,220	115,316	81,015	155,951
<i>Postal money orders</i>	25,479	34,909	82,965	51,291	96,736
<i>Postal cheques</i>	15,833	30,311	32,351	29,724	59,215

\* Total for all (22) cheque clearing houses.

Table 10  
**Transfer instructions handled by securities settlement systems:  
volume of transactions**  
(in thousands)

	1994	1995	1996	1997	1998
Takasbank <sup>1</sup>	–	–	n.a.	n.a.	n.a.
CBT SSS <sup>2</sup>	n.a.	n.a.	n.a.	n.a.	n.a.

<sup>1</sup> Takasbank started operation in 1996. <sup>2</sup> CBT securities settlement system.

Table 11  
**Transfer instructions handled by securities settlement systems:  
value of transactions**  
(in billions of TRL)

	1994	1995	1996	1997	1998
Takasbank <sup>1</sup>	n.a.	n.a.	–	–	–
CBT SSS <sup>2</sup>	–	–	–	–	–

<sup>1</sup> Takasbank started operation in 1996. <sup>2</sup> CBT security settlement system.

Table 12  
**Indicators of use of various cashless payment instruments:  
 volume of transactions (third-party payments)**  
 (in millions)

	1994	1995	1996	1997	1998
Cheques issued <sup>1</sup>	19.4	19.0	22.5	27.1	27.1
Payments by cards:					
<i>credit cards</i> <sup>2</sup>	29.6	46.0	87.6	145.9	239.8
<i>debit cards</i>	–	–	130.3	182.2	–
Paperless credit transfers <sup>3</sup>	2.5	4.1	6.6	10.1	13.0
Postal money orders	24.3	19.8	15.6	14.2	12.8
Postal cheques	19.2	17.5	13.0	11.4	11.2

<sup>1</sup> Number of cheques processed in interbank clearing houses. <sup>2</sup> Use of only domestic banks' credit cards in Turkey and abroad.

<sup>3</sup> TIC-RTGS only.

Source: BCC press bulletin.

Table 13  
**Indicators of use of various cashless payment instruments:  
 volume of transactions (third-party payments)**  
 (in billions of TRL)

	1994	1995	1996	1997	1998
Cheques issued <sup>1</sup>	1,122,142	2,242,619	4,286,678	8,605,397	14,900,958
Payments by cards:					
<i>credit cards</i> <sup>2</sup>	37,931	105,020	322,332	941,493	2,466,000
<i>debit cards</i>	–	–	728,567	1,791,203	–
Paperless credit transfers <sup>3</sup>	18,345,790	37,957,400	81,694,500	191,952,936	454,024,291
Postal money orders	25,479	34,909	82,965	51,291	96,736
Postal cheques	15,833	30,311	32,351	29,724	59,215

<sup>1</sup> Number of cheques processed in interbank clearing houses. <sup>2</sup> Use of only domestic banks' credit cards in Turkey and abroad.

<sup>3</sup> TIC-RTGS only.

Source: BCC press bulletin.

Table 14  
**Participation in S.W.I.F.T. by domestic institutions**

	1994	1995	1996	1997	1998
Members	43	48	49	54	55
<i>of which live</i>	41	45	49	54	55
Sub-members:	11	11	12	13	15
<i>of which live</i>	10	10	10	12	15
Participants:	–	–	0	3	3
<i>of which live</i>	–	–	0	3	3
Total users	54	59	61	70	73
<i>of which live</i>	51	55	59	69	73
<i>Memorandum items:</i>					
Total S.W.I.F.T.:					
<i>members</i>	2,551	2,693	2,874	2,985	2,980
<i>sub-members</i>	2,097	2,259	2,404	2,585	2,720
<i>participants</i>	218	227	354	606	857
<i>users</i>	4,866	5,229	5,632	6,176	6,557

Table 15  
**S.W.I.F.T. message flows to/from domestic users**

	1994	1995	1996	1997	1998
Total messages sent	1,673,110	2,332,838	2,829,456	3,665,125	4,303,727
<i>of which:</i>					
<i>category I<sup>1</sup></i>	653,040	862,374	1,021,498	1,289,072	1,427,730
<i>category II<sup>2</sup></i>	418,891	503,365	616,476	822,552	963,409
Total messages received	2,375,703	3,031,098	3,582,924	4,383,630	–
<i>of which:</i>					
<i>category I</i>	757,269	950,130	1,108,536	1,337,549	1,528,435
<i>category II</i>	114,103	148,730	179,317	232,918	301,820
Global S.W.I.F.T. traffic	518,097,873	603,575,374	687,785,294	812,117,556	907,617,576

<sup>1</sup> Category I: customer (funds) transfers. <sup>2</sup> Category II: bank (funds) transfers.





## **Comparative tables**



## Comparative tables

Table 1  
Notes and coin in circulation<sup>1</sup>

	1993	1994	1995	1996	1997
	<b>USD per inhabitant<sup>2</sup></b>				
Turkey	60	43	52	47	47
Belgium	1,164	1,229	1,391	1,340	1,174
Canada	637	635	662	675	676
France	739	807	891	841	742
Germany	1,511	1,790	2,025	1,936	1,679
Italy	921	1,032	1,082	1,138	1,062
Japan	3,243	3,736	3,873	3,740	3,582
Netherlands	1,263	1,424	1,537	1,411	1,227
Sweden	1,042	1,120	1,312	1,327	1,183
Switzerland	2,638	2,985	3,394	3,127	2,832
United Kingdom	455	504	528	606	627
United States	1,272	1,385	1,442	1,506	1,617
	<b>As percentage of GDP</b>				
Turkey	2.6	2.6	2.4	2.2	2.1
Belgium	6.0	5.2	5.3	5.2	5.1
Canada	3.4	3.4	3.4	3.4	3.4
France	3.5	3.4	3.3	3.3	3.2
Germany	6.7	6.8	6.9	7.0	6.8
Italy	5.8	5.9	5.5	5.3	5.5
Japan	9.5	9.7	10.4	10.9	11.6
Netherlands	6.5	6.2	6.0	5.7	5.5
Sweden	5.3	5.0	4.7	4.8	4.7
Switzerland	7.7	7.8	7.7	8.1	7.8
United Kingdom	2.8	2.8	2.8	2.8	2.9
United States	5.0	5.2	5.2	5.2	5.3
	<b>As percentage of narrow money<sup>3</sup></b>				
Turkey	40.0	44.3	51.2	35.6	38.6
Belgium	29.6	27.1	27.2	27.5	26.5
Canada	44.0	44.2	42.8	37.7	36.0
France	15.3	15.1	14.2	14.2	13.5
Germany	29.2	29.6	29.1	26.9	26.3
Italy	15.5	16.0	16.3	16.1	16.1
Japan <sup>5</sup>	31.1	30.7	29.2	29.0	28.7
Netherlands	25.1	25.0	22.1	19.7	18.5
Sweden	10.7	10.7	10.5	9.9	10.0
Switzerland	19.7	19.7	18.0	17.3	15.6
United Kingdom	4.5	4.6	4.6	4.5	4.6
United States	28.5	30.7	32.9	36.2	39.5

<sup>1</sup> For explanation of figures see relevant country tables. <sup>2</sup> Year-end figures converted at end-of-year exchange rates. <sup>3</sup> Narrow money: M<sub>1</sub>; except for Sweden (M<sub>3</sub>) and the United Kingdom (M<sub>2</sub>).

Table 2  
Transferable deposits held by non-banks<sup>1</sup>

	1993	1994	1995	1996	1997
	<b>USD per inhabitant<sup>2</sup></b>				
Turkey	89	54	54	86	74
Belgium	2,764	3,307	3,715	3,536	3,261
Canada	3,067	2,975	3,334	3,768	3,938
France	4,080	4,543	5,381	5,082	4,761
Germany	3,761	4,287	4,953	5,309	4,697
Italy	4,863	5,236	5,399	5,784	5,386
Japan <sup>3</sup>	8,160	9,425	11,032	10,623	9,507
Netherlands	3,763	4,265	5,421	5,763	5,397
Sweden	8,850	9,811	11,351	11,991	10,476
Switzerland	5,839	6,799	8,359	8,303	8,692
United Kingdom	9,589	10,493	11,073	12,797	12,895
United States	3,180	3,103	2,917	2,631	2,465
	<b>As percentage of GDP</b>				
Turkey	3.9	3.3	2.6	3.9	3.4
Belgium	14.0	14.0	14.0	13.8	14.1
Canada	16.2	16.1	17.3	19.1	20.0
France	19.4	19.2	20.1	19.8	20.6
Germany	16.7	16.3	16.8	19.1	19.1
Italy	30.4	29.8	27.6	27.2	27.9
Japan <sup>3</sup>	24.6	25.3	25.0	28.3	29.5
Netherlands	19.3	18.6	21.2	23.4	24.2
Sweden	44.6	42.4	40.6	44.3	42.0
Switzerland	17.0	17.8	18.8	21.4	24.0
United Kingdom	60.0	58.6	59.5	59.8	58.8
United States	12.5	11.6	10.6	9.1	8.1
	<b>As percentage of narrow money<sup>4</sup></b>				
Turkey	60.0	55.7	51.2	64.4	61.4
Belgium	70.0	72.9	72.8	72.5	73.5
Canada	212.1	207.4	215.5	210.0	210.0
France	84.7	84.9	85.8	85.8	86.5
Germany	72.7	70.8	71.2	73.8	73.7
Italy	81.9	81.4	81.1	81.8	81.8
Japan <sup>5</sup>	86.5	85.3	82.7	81.6	80.5
Netherlands	74.9	75.0	77.9	80.3	81.5
Sweden	90.6	90.3	90.6	91.1	88.7
Switzerland	43.6	44.9	44.2	45.8	48.0
United Kingdom	95.5	95.4	95.4	95.5	95.4
United States	71.2	68.9	66.6	63.2	60.2

<sup>1</sup> For explanation of figures and definition of transferable deposits, see relevant country tables. <sup>2</sup> Year-end figures converted at end-of-year exchange rates. <sup>3</sup> End-March figure converted at end-March exchange rate. <sup>4</sup> Narrow money: M<sub>1</sub>; except for Sweden (M<sub>3</sub>) and the United Kingdom (M<sub>2</sub>). <sup>5</sup> End-March figure.

Table 3  
**Settlement media used by banks<sup>1</sup>**  
 (1997)

	<b>Banks' reserves at central bank (USD billion)<sup>2</sup></b>	<b>Banks' reserves at central bank in percentage of narrow money<sup>3</sup></b>	<b>Transferable deposits at other banks (USD billion)<sup>2</sup></b>	<b>Transferable deposits at other banks in percentage of narrow money<sup>2</sup></b>
Turkey	5.71	0.74	.	.
Belgium	0.032	0.07	4.93	10.93
Canada	0.3	0.65	.	.
France	1.3	0.39	603.0	186.6
Germany	23.3	4.4	238.6	45.6
Italy	47.2	12.4	55.3	14.6
Japan	27.7	1.8	65.0 <sup>4</sup>	4.4 <sup>5</sup>
Netherlands	8.625	8.32	1.181	1.1
Sweden	0.25	0.24	12.1	11.6
Switzerland	3.7	2.9	21.8	17.0
United Kingdom	4.3	0.5	394.0	49.4
United States	30.8	2.8	31.8	2.9

<sup>1</sup> For explanation of figures see relevant country tables. <sup>2</sup> Year-end figures converted at end-of-year exchange rates. <sup>3</sup> Narrow money: M<sub>1</sub>; except for Sweden (M<sub>3</sub>) and the United Kingdom (M<sub>2</sub>). <sup>4</sup> End-March figure converted at end-March exchange rate. <sup>5</sup> End-March figure.

Table 4  
**Institutional framework<sup>1</sup>**  
(1997)

	<b>Number of institutions</b>	<b>Number of inhabitants per institution</b>	<b>Number of branches</b>	<b>Number of inhabitants per branch</b>	<b>Number of accounts per inhabitant</b>
Turkey	80	796,875	26,019	2,450	0.82
Belgium	136	74,853	9,041	1,126	1.23
Canada <sup>2</sup>	2,413	12,598	13,642	2,228	.
France	519	113,102	46,639	1,259	1.1
Germany	3,409	24,083	59,695 <sup>3</sup>	1,375	1.0
Italy	937	61,366	39,936	1,440	0.5
Japan	4,266	29,578	69,022	1,828	.
Netherlands	127	123,261	7,071	2,214	1.4
Sweden	125	70,800	3,624	2,442	.
Switzerland	362	19,604	6,995	1,015	.
United Kingdom	553	106,691	35,234	1,675	2.4
United States <sup>4</sup>	22,331	11,997	73,538	3,643	.

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

Table 5  
Cash dispensers and ATMs<sup>1</sup>

	1993	1994	1995	1996	1997
<b>Number of machines per 1,000,000 inhabitants</b>					
Turkey	67	66	76	87	106
Belgium	119	313	360	414	492
Canada	554	576	595	617	645
France	325	356	395	419	461
Germany	308	361	436 <sup>4</sup>	459	504
Italy	266	326	378	421	443
Japan	935	978	1,013	1,051	1,115
Netherlands	291	324	354	372	409
Sweden	255	259	267	269	268
Switzerland	439	481	532	587	678
United Kingdom	328	342	358	376	393
United States	367	418	466	524	616
<b>Number of transactions per inhabitant</b>					
Turkey	.	.	.	.	3.2
Belgium	9.1	13.1	14.3	15.1	15.7
Canada	37.4	40.7	45.9	49.2	52.7
France	13.3	14.2	15.8	18.1	19.9
Germany	.	11.5	13.4 <sup>4</sup>	15.3	.
Italy	3.8	4.8	5.8	6.4	7.2
Japan	3.3	3.6	3.8	4.1	5.0
Netherlands	20.5	23.8	27.4	29.3	33.3
Sweden	28.3	30.7	31.8	33.6	35.3
Switzerland	8.3	9.1	10.0	10.6	11.4
United Kingdom	21.3	22.9	25.2	27.2	29.6
United States	29.8	31.8	36.9	40.3	40.7
<b>Average value of transactions (USD)<sup>2</sup></b>					
Turkey	.	.	.	.	65.1
Belgium	110.3	126.5	138.1	129.5	114.3
Canada <sup>3</sup>	53.4	51.1	51.2	52.0	50.4
France	77.0	76.5	81.3	77.5	68.0
Germany	.	157.6	196.6 <sup>4</sup>	179.0	.
Italy	189.4	191.3	198.3	202.7	184.7
Japan	395.4	419.8	450.6	383.4	288.8
Netherlands	95.9	97.4	108.4	105.4	87.9
Sweden	101.2	104.7	112.6	104.4	104.5
Switzerland	207.8	217.8	246.9	209.5	186.6
United Kingdom	72.5	74.6	77.3	78.1	84.5
United States	68.2	67.2	67.7	68.0	68.3

<sup>1</sup> For explanation of figures see relevant country tables. <sup>2</sup> Converted at yearly average exchange rates. <sup>3</sup> Average value of a cash withdrawal only. <sup>4</sup> Increase partly due to new data source.

Table 6  
EFTPOS terminals<sup>1</sup>

	1993	1994	1995	1996	1997
<b>Number of terminals per 1,000,000 inhabitants</b>					
Turkey	178	264	405	559	920
Belgium	5,246	6,294	7,174	7,997	8,421
Canada	2,134	4,073	6,394	8,408	10,873
France	7,435	7,574	9,394	9,333	9,540
Germany <sup>3</sup>	344	767	856	1,402	1,983
Italy	1,350	1,819	2,683	3,734	4,896
Japan	168	227	200	183	155
Netherlands	1,600	3,085	4,736	6,170	7,692
Sweden	3,054	5,514	6,160	6,946	7,774
Switzerland	1,433	2,379	3,499	4,747	5,803
United Kingdom	4,639	5,993	8,647	9,345	8,983
United States	600	1,320	2,009	3,296	4,853
<b>Number of transactions per inhabitant</b>					
Turkey	.	.	.	1.2	1.9
Belgium	14.2	18.0	20.8	23.9	27.2
Canada	2.6	6.3	13.3	22.5	34.2
France	24.3	26.1	32.3	35.6	39.2
Germany <sup>3</sup>	0.85	1.28	1.83	2.61	2.75
Italy	0.99	1.56	2.12	2.94	4.41
Japan	0.005	0.006	0.007	0.004	0.004
Netherlands	4.4	9.3	16.5	23.8	31.0
Sweden	6.5	8.8	10.4	12.6	15.9
Switzerland	4.0	5.7	8.0	10.8	13.6
United Kingdom	.	.	.	.	.
United States	1.7	2.4	2.9	4.1	5.4
<b>Average value of transactions (USD)<sup>2</sup></b>					
Turkey	.	.	.	20.6	34.8
Belgium	63.2	71.2	77.6	72.6	63.3
Canada	38.7	37.1	34.9	32.7	30.7
France	58.0	57.6	63.3	60.0	50.9
Germany <sup>3</sup>	54.2	64.0	95.7	98.2	71.7
Italy	129.1	119.8	118.6	118.2	106.8
Japan	184.9	80.2	.	32.4	56.6
Netherlands	54.6	55.0	59.1	56.5	48.0
Sweden	85.5	80.8	80.7	80.7	78.0
Switzerland	58.8	73.8	96.4	96.3	73.5
United Kingdom	.	.	.	.	.
United States	24.0	25.0	29.4	31.0	34.0

<sup>1</sup> For explanation of figures see relevant country tables. <sup>2</sup> Converted at yearly average exchange rates. <sup>3</sup> In 1997 electronic cash only.



Table 7  
**Number of cards<sup>1</sup>**  
 (1997 per 1,000 inhabitants)

	<b>Cards with a cash function</b>	<b>Cards with a debit/credit function</b>	<b>Cards with cheque guarantee function</b>	<b>Retailers' cards</b>
Turkey	.	364	n.a.	.
Belgium	1,116	1,116	468	140
Canada	1,590	577	.	4,112
France	514	472	.	.
Germany	.	1,038	508	61
Italy	301	426	16	.
Japan	2,243	1,945	.	480
Netherlands	1,535	162	26	.
Sweden	774	691	.	.
Switzerland	933	988	617	.
United Kingdom	1,641	1,271	903	298
United States	2,548	2,628	.	2,233

<sup>1</sup> For explanation of figures, see relevant country tables.

Table 8  
**Relative importance of cashless payment instruments<sup>1</sup>**  
 (percentage of total volume of cashless transactions)

	1993	1994	1995	1996	1997
<b>Cheques</b>					
Turkey	.	20.4	17.9	8.2	6.9
Belgium	14.0	11.7	10.6	9.4	8.0
Canada	58.7	52.8	46.9	41.0	36.1
France	49.1	47.4	45.6	43.6	41.7
Germany	8.1	7.9	7.0	6.4	5.7
Italy <sup>2</sup>	37.2	34.0	32.8	30.5	28.0
Japan	.	.	.	.	.
Netherlands	11.1	8.5	5.9	4.2	3.0
Sweden <sup>5</sup>	.	.	.	.	1.9
Switzerland <sup>3</sup>	3.3	2.6	2.0	1.6	1.3
United Kingdom <sup>4</sup>	43.0	40.2	36.7	33.1	30.5
United States	79.6	78.1	76.5	74.8	73.2
<b>Payment by cards</b>					
Turkey	.	31.2	43.2	79.1	83.9
Belgium	17.1	18.0	19.7	21.3	23.4
Canada	31.1	35.3	40.0	44.8	48.8
France	15.7	16.2	17.6	18.3	19.5
Germany	2.6	3.1	3.6	4.2	4.1
Italy <sup>2</sup>	4.1	5.2	6.6	8.6	11.2
Japan	.	.	.	.	.
Netherlands	3.1	6.1	11.3	15.1	18.2
Sweden <sup>5</sup>	9.8	11.6	14.2	14.8	18.9
Switzerland	13.8	16.2	18.4	20.7	22.8
United Kingdom	21.0	23.3	25.9	28.9	31.1
United States	17.5	18.7	20.1	21.5	23.0

<sup>1</sup> For explanation of figures see relevant country tables. In some cases the total may not sum to 100% because of other items. <sup>2</sup> The figures for the years 1993-95 differ from those provided in the statistical annex of the Italian chapter as they are estimated for the whole system. <sup>3</sup> Postal cheques are not included because detailed figures are not published by the Postfinance. <sup>4</sup> Includes Town cheques. <sup>5</sup> Statistics on the volume and value of cheque payments are not available from 1993 onwards. The percentage figures for these years therefore do not include cheques.

Table 8 (cont.)

	1993	1994	1995	1996	1997
	<b>Credit transfers</b>				
Turkey	.	2.6	3.9	2.4	2.6
Belgium	60.0	60.9	60.2	59.5	58.0
Canada	5.2	6.4	7.4	8.1	8.4
France	15.4	15.7	15.6	15.7	15.7
Germany	45.6	48.7	48.8	49.2	48.2
Italy <sup>2</sup>	44.6	46.8	45.9	42.6	41.6
Japan	.	.	.	.	.
Netherlands	61.3	59.8	56.6	54.0	51.7
Sweden	84.5	82.3	79.4	78.5	72.1
Switzerland <sup>6</sup>	80.1	78.1	76.3	74.4	72.3
United Kingdom <sup>7</sup>	20.4	20.1	19.7	19.9	19.6
United States	1.9	2.1	2.3	2.4	2.5
	<b>Direct debits</b>				
Turkey	.	.	.	.	.
Belgium	8.9	9.4	9.4	9.7	9.8
Canada	5.0	5.5	5.8	6.2	6.7
France	10.6	11.2	11.3	11.8	12.1
Germany	43.7	40.3	40.6	40.2	42.0
Italy <sup>2</sup>	4.4	4.7	5.4	7.3	8.6
Japan	.	.	.	.	.
Netherlands	24.4	25.6	26.3	26.8	27.1
Sweden	5.7	6.1	6.4	6.7	7.1
Switzerland <sup>8</sup>	2.8	3.1	3.3	3.3	3.6
United Kingdom	15.6	16.5	17.7	18.1	18.7
United States	1.0	1.1	1.2	1.3	1.3

<sup>6</sup> All transfers at Postfinance included. <sup>7</sup> Paper-based and paperless (includes large-value: CHAPS). <sup>8</sup> Without Postfinance direct debits. See footnote 3.

Table 9  
**Relative importance of cashless payment instruments<sup>1</sup>**  
 (percentage of total value of cashless transactions)

	1993	1994	1995	1996	1997
<b>Cheques</b>					
Turkey	.	.	.	4.9	4.2
Belgium	4.3	3.8	3.3	3.2	2.9
Canada	98.8	98.7	98.1	97.2	97.1
France	4.6	4.4	4.7	4.8	4.4
Germany	2.3	2.3	2.1	1.8	1.6
Italy <sup>2</sup>	5.4	4.5	4.5	3.6	3.2
Japan	.	.	.	.	.
Netherlands	0.1	0.1	0.1	0.1	0.0
Sweden	.	.	.	.	.
Switzerland <sup>3</sup>	0.1	0.1	0.1	0.1	.
United Kingdom <sup>4</sup>	9.4	7.6	5.3	4.9	4.2
United States	12.6	12.2	11.9	11.2	10.5
<b>Payment by cards</b>					
Turkey	.	.	.	1.2	1.3
Belgium	0.1	0.1	0.1	0.2	0.2
Canada	0.3	0.4	0.5	0.8	0.8
France	0.2	0.2	0.2	0.2	0.2
Germany	0.02	0.02	0.03	0.04	0.03
Italy <sup>2</sup>	0.03	0.04	0.05	0.05	0.06
Japan	.	.	.	.	.
Netherlands	0.0	0.1	0.1	0.1	0.2
Sweden	0.9	1.0	1.4	1.5	1.7
Switzerland	.	.	.	.	0.1
United Kingdom	0.2	0.2	0.2	0.3	0.3
United States	0.1	0.1	0.2	0.2	0.2

<sup>1</sup> For explanation of figures see relevant country tables. In some cases the total may not sum to 100% because of other items. <sup>2</sup> The figures for the years 1993-95 differ from those provided in the statistical annex of the Italian chapter as they are estimated for the whole system. <sup>3</sup> Postal cheques are not included because detailed figures are not published by the Postfinance. <sup>4</sup> Includes Town cheques.

Table 9 (cont.)

	1993	1994	1995	1996	1997
	<b>Credit transfers</b>				
Turkey	.	.	.	93.7	94.4
Belgium	95.3	95.9	96.3	96.3	96.6
Canada	0.7	0.7	1.0	1.5	1.5
France	93.4	93.5	93.0	92.7	93.3
Germany	95.7	95.7	95.8	95.7	95.9
Italy <sup>2</sup>	93.2	94.2	94.1	95.0	95.4
Japan	.	.	.	.	.
Netherlands	98.7	98.8	98.6	98.7	98.8
Sweden	95.8	96.2	95.7	95.6	95.8
Switzerland <sup>5</sup>	99.9	99.8	99.8	99.8	99.8
United Kingdom <sup>6</sup>	89.5	91.2	93.4	93.7	94.6
United States	86.4	86.8	87.0	87.7	88.5
	<b>Direct debits</b>				
Turkey	.	.	.	.	.
Belgium	0.3	0.2	0.3	0.3	0.3
Canada	0.2	0.2	0.3	0.5	0.6
France	0.7	0.8	0.9	1.0	1.0
Germany	2.0	2.0	2.1	2.5	2.5
Italy <sup>2</sup>	0.2	0.2	0.2	0.2	0.3
Japan	.	.	.	.	.
Netherlands	1.1	1.1	1.2	1.1	1.0
Sweden	3.3	2.8	2.9	2.9	2.5
Switzerland <sup>7</sup>	.	0.1	0.1	0.1	0.1
United Kingdom	1.0	1.0	1.0	1.1	1.0
United States	0.9	0.9	0.9	0.9	0.8

<sup>5</sup> All transfers at Postfinance included. <sup>6</sup> Paper-based and paperless (includes large-value: CHAPS). <sup>7</sup> Without Postfinance direct debits. See footnote 3.

Table 10a  
**Features of selected interbank funds transfer systems<sup>1</sup>**  
 (figures relate to 1997)

	Type <sup>2</sup>	Owner/ Manager <sup>3</sup>	No. of participants		Processing <sup>4</sup>	Settlement <sup>5</sup>	Member- ship <sup>6</sup>
				of which direct			
<b>Turkey</b>							
TIC-RTGS	L + R	CB	74	74	RTT	RTGS	O
ICH	L + R	B	70	70	ACH	N	O
CBT Giro	L	CB	82	–	A	GS	O
BCC	R	B	36	–	RTT	N	R
<b>Belgium</b>							
ELLIPS	L	B + CB	122	22	RTT	RTGS	RM
Clearing House	L + R	B + CB	126	26	M	N	O
CEC	R	B + CB	122	26	ACH	N	O
<b>Canada</b>							
IIPS	L	B + AS	63	19	.	. <sup>7</sup>	RM
<b>France</b>							
SAGITTAIRE	L	CB	57	57	RTT	N	RM
CH Paris <sup>8</sup>	L + R	AS	388	30	M	N	RM
CH Provinces <sup>9</sup>	R	CB	380 <sup>10</sup>	234 <sup>10</sup>	M	N	O
SIT	R	CB + B/AS	316	22	RTT	N	RM
CREIC	R	CB	16	16	ACH	N	O
Card payments	R	B/AS	184	11	RTT	N	RM
TBF	L	CB	158	154	RTT	RTGS	O
SNP	L	B/AS	24	10	RTT	N	RM
<b>Germany</b>							
MAOBE <sup>11</sup>	R	CB	5,097	.	ACH	GS	O
DTA <sup>11</sup>	R	CB	5,097	.	ACH	GS	O
EIL-ZV	L	CB	2,947	.	RTT	RTGS	O
Platzüberweisungs- verkehr <sup>11,12</sup>	L + R	CB	5,097	.	M	GS	O
Konvent. Abrechnung	L + R	CB	178	.	M	N	O
EAF 2	L	CB	68	.	RTT	N	RM
<b>Italy</b>							
Local clearing	R	CB	598	251	RTT <sup>13</sup>	N	O
Retail	R	CB <sup>14</sup>	897	211	ACH	N	O
ME <sup>15</sup>	L	CB	294	294	RTT	N	O
Ingrosso (ex SIPS)	L	CB <sup>14</sup>	858	187	RTT	N	O
BI-REL	L	CB	791	791	RTT	RTGS	O

<sup>1</sup> For additional information see relevant country chapters. <sup>2</sup> L = Large-value system, R = Retail system. <sup>3</sup> Owner/Manager: B = Banks, CB = Central Banks, AS = Payment Association. <sup>4</sup> Processing method: M = Manual, ACH = Automated Clearing House (offline), A = Automated, RTT = Real-Time Transmission. <sup>5</sup> N = multilateral Netting, BN = Bilateral Netting, RTGS = Real-Time Gross Settlement, GS = other Gross Settlement. <sup>6</sup> O = Open membership (any bank can apply) or RM = Restricted Membership (subject to criteria). <sup>7</sup> Other (see Table 11, Footnote 7). <sup>8</sup> Clearing House in Paris. <sup>9</sup> Clearing Houses in the provinces. <sup>10</sup> All institutions on which cheques are drawn or at which bills of exchange are payable are bound by regulations to participate in the local clearing houses, through an agent in certain cases. <sup>11</sup> Number of accounts. <sup>12</sup> System was closed down end of May 1997. <sup>13</sup> Transactions can also be submitted on floppy disk. <sup>14</sup> System managed by the Interbank Society for Automation in the name and on behalf of the Banca d'Italia. <sup>15</sup> Electronic memoranda.

Table 10a (cont.)

	Degree of centralisation <sup>16</sup>	Pricing <sup>17</sup>	Closing time for same-day transactions <sup>18</sup>	Number of transactions (thousands)	Value of transactions (USD billions) <sup>19</sup>	Ratio of transactions value to GDP (at annual rate)
<b>Turkey</b>						
TIC-RTGS	C	F	16:30	10,182	1,287	6.7
ICH	D	F	14:30	27,172	42	0.29
CBT Giro	D	V	17:30	–	–	–
BCC	C	F	17:30	–	–	–
<b>Belgium</b>						
ELLIPS	C	F	16:45	955	9,282	39.8
Clearing House	D	V	15:00	6,780	8.7	0.6
CEC	C	F	15:00	880,603	500	2.1
<b>Canada</b>						
IIPS	D	N	16:30	2,700	13,849	22.5
<b>France</b>						
SAGITTAIRE	C	F	13:00	4,746	20,103	14.80
CH Paris <sup>8</sup>	C	F	15:00	691,878	13,908	10.24
CH Provinces <sup>9</sup>	C	N	11:00	2,931,067	1,162	0.86
SIT	C	F	13:30	4,919,551	2,308	1.70
CREIC	C	F	NO	285,269	26	0.02
Card payments <sup>23</sup>	C	F	13:30	2,301,576	117	0.09
TBF	C	F	17:30	67	4,795	3.53
SNP	C	F	15:45	526	7,951	5.85
<b>Germany</b>						
MAOBE	D	V	NO	27,700	122	0.06
DTA	D	V	NO	2,217,200	2,412	1.20
EIL-ZV	D	F	15:00	10,600	18,635	9.25
Platzüberweisungsverkehr <sup>12,20</sup>	D	N	12:00	600	1,103	0.55
Konvent. Abrechnung <sup>21</sup>	D	F	13:00	300	601	0.30
EAF2	C	F	12:45	22,400	101,372	50.30
<b>Italy</b>						
Local clearing	D	V	13:30	217,577	1,504	1.3
Retail	C	F	NO <sup>22</sup>	710,609	1,051	0.9
ME <sup>15</sup>	C	V	15:30	1,452	14,809	12.9
Ingresso (ex SIPS)	C	F	14:00	6,057	24,370	21.3
BI-REL	C	V	16:20	2,694	2,568	2.2

<sup>16</sup> Geographical access to the system: C = Centralised (one processing centre only) or D = Decentralised. <sup>17</sup> Prices charged to participants: F = Full costs (including investments), V = Variable costs, S = Symbolic costs (below variable costs), N = No costs. <sup>18</sup> Closing time for same-day transactions (NO = no same-day transactions). <sup>19</sup> Converted at yearly average exchange rates. <sup>20</sup> Decrease due to conversion requirement, resulting in a switch of previously paper-based payments to EIL-ZV and DTA. <sup>21</sup> Reporting change in 1995: number of delivery envelopes cleared instead of individual payments contained therein. <sup>22</sup> Except for the credit transfers entered before 12.00 which are settled on the same day. <sup>23</sup> These data are included in the SIT data.

Table 10b  
**Features of selected interbank funds transfer systems<sup>1</sup>**  
 (figures relate to 1997)

	Type <sup>2</sup>	Owner/ Manager <sup>3</sup>	No. of participants		Processing <sup>4</sup>	Settlement <sup>5</sup>	Member- ship <sup>6</sup>
				<i>of which direct</i>			
<b>Japan</b>							
FEYCS	L	B	264	264	RTT	N	RM
BOJ-NET	L	CB	426	426	RTT	RTGS <sup>7</sup>	RM
<b>Netherlands</b>							
Interpay	R	B	72	72	ACH	N	O
TOP <sup>8</sup>	L	CB	124	124	RTT	RTGS	O
<b>Sweden</b>							
RIX	L	CB	130	27	RTT	RTGS	RM
Bank Giro System	R	B	23	23	ACH	N	O
<b>Switzerland</b>							
SIC	L + R	CB + B	221	221	RTT	RTGS	RM
DTA/LSV	R	B	163	163	ACH	GS	RM
<b>United Kingdom</b>							
CHAPS	L	B	422	17	RTGS <sup>9</sup>	N	RM
BACS	R	B	37,000	16	ACH	N	RM
Cheque/credit	R	B	613	13	M	N	RM
<b>United States</b>							
Fedwire	L	CB	9,967	9,967	RTT	RTGS	O
CHIPS	L	B	95	95	RTT	N	RM

<sup>1</sup> For additional information see relevant country chapters. <sup>2</sup> L = Large-value system, R = Retail system. <sup>3</sup> Owner/Manager: B = Banks, CB = Central Banks. <sup>4</sup> Processing method: M = Manual, ACH = Automated Clearing House (off-line), RTT = Real-Time Transmission. <sup>5</sup> N = multilateral Netting, BN = Bilateral Netting, RTGS = Real-Time Gross Settlement, GS = other Gross Settlement. <sup>6</sup> O = Open membership (any bank can apply) or RM = Restricted Membership (subject to criteria). <sup>7</sup> 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. <sup>8</sup> Merge of 8007 S.W.I.F.T. and the Central Bank FA System. <sup>9</sup> Changed to an RTGS system on 22 April 1996.



Table 10b (cont.)

	Degree of centralisation <sup>10</sup>	Pricing <sup>11</sup>	Closing time for same-day transactions <sup>12</sup>	Number of transactions (thousands)	Value of transactions (USD billions)	Ratio of transactions value to GDP (at annual rate)
<b>Japan</b>						
FEYCS	D	V <sup>13</sup>	13:45	10,434	85,656	20.4
BOJ-NET	D	V <sup>13</sup>	17:00	4,402	334,962	79.9
<b>Netherlands</b>						
Interpay	D	F	12:45	1,782,900	1,287	3.6
TOP <sup>8</sup>	C	V	16:30	3,096	13,815	38.3
<b>Sweden</b>						
RIX	C	F	17:00	326	10,743	47.0
Bank Giro System	C	F	NO	289,532	343	1.5
<b>Switzerland</b>						
SIC	C	F	16:15	121,006	31,561	123.7
DTA/LSV	C	F	NO	93,494	216	0.8
<b>United Kingdom<sup>14</sup></b>						
CHAPS	D	F	15:45	16,535	59,031	45.9
BACS	C	F	NO	2,682,685	2,346	1.8
Cheque/credit	D	F	NO	2,238,548	2,325	1.8 <sup>15</sup>
<b>United States</b>						
Fedwire	C	F	18:30	89,500	288,420	35.6
CHIPS	C	F	16:30	58,900	362,187	44.7

<sup>10</sup> Geographical access to the system: C = Centralised (one processing centre only) or D = Decentralised. <sup>11</sup> Prices charged to participants: F = Full costs (including investments), V = Variable costs, S = Symbolic costs (below variable costs), N = No costs. <sup>12</sup> Closing time for same-day transactions (NO = no same-day transactions). <sup>13</sup> Prices are set on the principle that institutions which are to benefit from on-line processing should pay the relevant charges. <sup>14</sup> Interbank figures only. <sup>15</sup> Excludes Northern Ireland.

Table 11  
**Operating hours of selected large-value interbank funds transfer systems<sup>1</sup>**  
(as of December 1997)

System	Gross (G) or net (N)	Opening- closing time for same-day value (local time)	Settlement finality (local time)	Cut-off for all third-party payment orders	Cut-off for international correspondents' payment orders	<i>Memo item: Standard money market hours (local time)</i>
<b>Turkey</b>						
TIC-RTGS	G	8:00-16:30	16:30	16:30	16:30	(10:00-16:00)
ICH	N	6:00-14:30	12:00 <sup>6</sup>	.	.	(10:00-16:00)
CBT Giro	G	8:30-17:00	17:00	17:00	n.a.	(10:00-16:00)
<b>Belgium</b>						
ELLIPS	G	6:30-16:45	.	16:30	15:00	(9:00-16:15)
CEC	N	15:01-15:00 <sup>2</sup>	15:15	15:00	15:00 <sup>3</sup>	(9:00-16:15)
Clearing House	N	8:00-15:00	15:00	.	.	(9:00-16:15)
<b>Canada<sup>4</sup></b>						
IIPS	N <sup>5</sup>	8:00-16:30	noon <sup>6</sup>	16:30 <sup>7</sup>	16:30 <sup>7</sup>	
<b>France</b>						
SAGITTAIRE	N	8:00-13:00 <sup>8</sup>	18:30	.	8:00 <sup>9</sup>	(8:15-17:00)
TBF <sup>10</sup>	G	7:30-17:30	17:30	17:30	17:30	
SNP	N	7:30-15:45	16:15	15:45	15:45	
<b>Germany</b>						
Express electronic credit transfer system	G	8:15-15:00	8:15-15:00	(11)	8:00 <sup>9</sup>	
Express (paper- based) local credit transfer system <sup>12</sup>	G	8:00-12:00	8:00-12:00	(11)	8:00 <sup>9</sup>	(9:30-13:00 <sup>13</sup> )
EAF2 <sup>14</sup>	N	8:00-12:45	14:30 <sup>15</sup>	(11)	8:00 <sup>9</sup>	
<b>Italy</b>						
BI-REL	G	8:00-16:20	8:00-16:20	15:50	9:00 <sup>9</sup>	(8:45-16:30 <sup>16</sup> )
Ingrosso (ex SIPS)	N	8:00-14:00	15:30	14:00	9:00 <sup>9</sup>	
ME	N	8:00-15:30	15:30	15:30	9:00 <sup>9</sup>	
<b>Japan</b>						
FEYCS	N	9:00-13:45	15:00	10:30 <sup>9</sup>	10:30 <sup>9</sup>	(9:00-17:00)
BOJ-NET	G17	9:00-17:00	9:00-17:00	14:00	n.a.	
<b>Netherlands</b>						
TOP <sup>18</sup>	G	8:00-16:30 <sup>20</sup>	8:00-16:30	14:00 <sup>9,19</sup>	14:00 <sup>9,19</sup>	9:00-13:00
<b>Sweden</b>						
RIX	G	8:00-17:00	8:00-17:00	(21)	8:00 <sup>9</sup>	(9:00-16:15)
<b>Switzerland</b>						
SIC	G	18:00-16:15 <sup>22</sup>	18:00-16:15 <sup>22</sup>	15:00 <sup>22</sup>	8:00 <sup>3</sup>	(9:00-16:00)
<b>United Kingdom</b>						
CHAPS	G <sup>23</sup>	8:30-15:45	end of day	none	12:00	(7:30-15:30 <sup>24</sup> )
<b>United States</b>						
Fedwire	G	00:30-18:30 <sup>25</sup>	00:30-18:30	18:00	18:00	(8:30-18:30 <sup>26</sup> )
CHIPS	N	00:30-16:30	18:00 <sup>27</sup>	16:30	16:30	
<b>ECU clearing system</b>	N	14:01-14:00 <sup>28</sup>	15:45	none	none	(TOM/NEXT <sup>29</sup> )

- 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. 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.
- 2 The CEC transfer system operates round-the-clock, five days a week.
- 3 S.W.I.F.T. guideline.
- 4 Eastern time.
- 5 Settlement typically takes place on the basis of bilateral net positions. The net receiving bank in each pair creates a paper document called an inter-member debit voucher and delivers it to the net sending bank as part of the exchanges covered by the Automated Clearing and Settlement System (ACSS) operated by the Canadian Payments Association. Settlement may also take place on a gross basis or on an item-by-item basis, in each case over the ACSS.
- 6 Net settlement at noon the next day (retroactive to the business day).
- 7 Local time at the receiving IIPS point, or the beneficiary account point, whichever is earlier.
- 8 SAGITTAIRE'S exchange day, i.e. the period during which orders are recorded by the Bank of France, begins at 8.00 and ends at 17:30. Orders sent after 17:30 are stored by S.W.I.F.T. and processed at the start of the next exchange day. SAGITTAIRE'S accounting day starts at 13:00 on D - 1 and ends at 13:00 on D (transfers sent after 13:00 on D, regardless of whether they are processed during the same exchange day or at the start of the following exchange day, are only entered in the accounts on D + 1). The net positions of members are drawn up after the close of the accounting day.
- 9 S.W.I.F.T. guideline; in practice it may be later.
- 10 The TBF became operational on 27 October 1997.
- 11 This is subject to arrangements between the correspondent banks.
- 12 System was closed down end of May 1997.
- 13 For settlement purposes it can be later.
- 14 Electronic netting system in Frankfurt for interbank transfers predominantly relating to international DM transactions.
- 15 Planned time for communication of completion (positive message) or non-completion (negative message) of settlement.
- 16 The money market may continue to operate beyond the standard hours according to the closing times of the clearing and settlement systems.
- 17 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.
- 18 Merge of 8007 S.W.I.F.T. and the Central Bank FA System.
- 19 Interbank guilder transfers relating to international transactions are sent through the 8007 S.W.I.F.T. system which is operated by the Netherlands Bank; net settlement of these transactions takes place over the Central Bank TOP System.
- 20 The 8007 S.W.I.F.T. system is, for a given value day, also open on the previous business day.
- 21 Participants decide among themselves which cut-off times they will use for different types of third-party orders. Large-value payments can be made during any time of the day.
- 22 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 (cut-off 1) and 16:00 (cut-off 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).
- 23 Changed to an RTGS system on 22 April 1996.
- 24 For same-day value: there are no standard money market hours but trading typically takes place between about 7:30 and 15:30. The market is most liquid in the morning. The Bank of England intervenes in the market as necessary between 9:45 and 15:30.
- 25 On 8 December 1997, the opening time for Fedwire and CHIPS changed to 00:30.
- 26 Trading occurs among dealers for funds on deposit at Federal Reserve Banks (i.e. federal funds) as early as 6:30.
- 27 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.
- 28 ECU payment orders can be sent (for up to 28 forward value days) through S.W.I.F.T. 24 hours a day, seven days a week. At 14:00 (GMT + 1) on each value day the netting computer calculates participants' net net positions. Messages arriving after 14:00 are processed automatically for the next value day(s).
- 29 There is no overnight market for ECU interbank loans. Day-to-day interbank ECU transactions are normally carried out in the Euro-markets on a TOM/NEXT basis.

Table 12  
**Features of selected securities systems**  
 (figures relate to 1997)

	Type <sup>1</sup>	Owner/ Manager <sup>2</sup>	No. of participants		Settlement of cash leg <sup>3</sup>	Delivery <sup>3</sup>
				of which direct		
<b>Turkey</b>						
CBT-SSS	G	CB	121	74	G	G
ISE Takasbank	G,E	SE			N	G/N
<b>Belgium</b>						
NBB Clearing	G,O	CB	183	183	G	G
CIK	E,O	B	140	140	G	N
<b>Canada</b>						
SSS <sup>4</sup>	G,E,O	B,SE,O	90	90	N	G/N
DCS <sup>5</sup>	G	B,SE,O	70	70	N	G
<b>France</b>						
SATURNE	G,O	CB	322	322	N	GS
RELIT	B,G,O	B	248	248	N	GS
<b>Germany</b>						
DBC	G,E,O	SE	385		N/G	G
<b>Italy</b>						
Securities Settlement Procedures:						
LDT	G,E,O	CB	281	281	N	N
CAT	G	CB	741	741	. <sup>6</sup>	G
Monte Titoli	E,O	Monte Titoli	426	.	. <sup>6</sup>	G
<b>Japan</b>						
JGB registration	G	CB	449	449	G/N	G/N
JGB book-entry	G	CB	384	384	G/N	G/N
<b>Netherlands</b>						
NECIGEF	G+E+O	B+CB+SE	55	55	G	G
CB Clearing Institute	G+O	CB	85	85	N	N
<b>Sweden</b>						
VPC	G+E+O	B+O	57	57	G/N	G
OM	O	O	42	42	N	N
<b>Switzerland</b>						
SECOM	G,E,O	B	350	350	G	G
<b>United Kingdom</b>						
CGO	G+O	CB/SE	232	232	N	G
CMO	O	CB	88	88	N	G
CREST	E,O	B,SE,O	3,432	3,432	N	G
<b>United States</b>						
Fedwire	G	CB	8,281	8,281	G	G
DTC (SDFS) <sup>7</sup>	E,O	B,SE,O	558	558	N	G

<sup>1</sup> G = Government securities, E = Equity, O = Other. <sup>2</sup> B = Banks, CB = Central Banks, SE = Stock Exchange, O = Other. <sup>3</sup> G = Gross, N = Net. <sup>4</sup> The book-based system of The Canadian Depository for Securities Limited (CDS). <sup>5</sup> The real-time, on-line debt-clearing service of CDS, which commenced operation during August 1994. <sup>6</sup> Deliveries free of payments. <sup>7</sup> Same-day funds settlement.

Table 12 (cont.)

	Delivery	Central Securities Depository	Cash Settlement Agent	Number of transactions (thousands)	Value of transactions (USD billions) <sup>8</sup>	Ratio of transactions value to GDP (at annual rate)
<b>Turkey</b>						
CBT-SSS	T	CBT	CBT	311.3	.	.
ISE Takasbank	T+2	CBT	CBT			
<b>Belgium</b>						
NBB Clearing	T+2/T+3 <sup>9</sup>	NBB	NBB	200	2,801.4	11.94
CIK	T+3 <sup>10</sup>	CIK	NBB	770,000	33.3	0.14
<b>Canada</b>						
SSS <sup>4</sup>	up to T+3	CDS	B <sup>11</sup>	{19,600 <sup>12</sup>	{39,387 <sup>12</sup>	{63.9
DCS <sup>5</sup>	up to T+3	CDS	B <sup>13</sup>			
<b>France</b>						
SATURNE	T	Banque de France	CB	330	9,325	6.9
RELIT	T+3 <sup>14</sup>	SICOVAM	CB	17,800	12,967	9.5
<b>Germany</b>						
DBC	T+0-40	DBC	CB	31,200	10,518	5.2
<b>Italy</b>						
Securities Settlement Procedures:						
LDT	T+2/T+3 T+5 <sup>15</sup>	CAT+ Monte Titoli	CB	.	24,698	21.6
CAT	T	CAT	. <sup>6</sup>	927.0	1,315	1.1
Monte Titoli	T	Monte Titoli	. <sup>6</sup>	.	78	0.1
<b>Japan</b>						
JGB registration	T+3	CB	CB	1,177.5	28,258	6.7
JGB book-entry	T+3	CB	CB	701.6	29,912	7.1
<b>Netherlands</b>						
NECIGEF	T+3	NECIGEF	KAS-ASS	1,685	.	.
CB Clearing Institute	T,T+3	CB	CB	3	95.7	0.27
<b>Sweden</b>						
VPC	T+2, T+3 <sup>16</sup>	VPC	CB	5,313	10,818	40.5
OM	T+3		CB	42,542		.
<b>Switzerland</b>						
SECOM	T+3	SEGA	CB	9,909	1,179	4.58
<b>United Kingdom</b>						
CGO	T,T+1	CB	CB	949.8	46,335	36.0
CMO	T	CB	CB	263.1	6,294	4.9
CREST	T+5	n.a.	B			
<b>United States</b>						
Fedwire	T,T+1	CB	CB	12,900	174,900	21.6
DTC (SDFS) <sup>7</sup>	T+3	DTC	DTC	151,000	62,000	7.6

<sup>8</sup> Converted at yearly average exchange rate. <sup>9</sup> T+2 for Treasury bills; T+3 for bonds. <sup>10</sup> The seller retains the responsibility for delivering securities. <sup>11</sup> A single chartered bank. <sup>12</sup> figures are for the twelve months ended 31 October 1997. <sup>13</sup> A single chartered bank, though not the same bank as for the SSS. <sup>14</sup> When processed by the "SLAB" system (special delivery service by bilateral agreements), the delivery occurs same day. <sup>15</sup> T+2 for government bills; T+3 for government and corporate bonds; T+5 for equities, warrants and convertible bonds. <sup>16</sup> Same-day delivery and settlement is also possible under specific conditions.

Table 13  
**S.W.I.F.T. traffic: intra G10 messages flows in 1997**  
(number of messages, in thousands)

From/To	TR	BE	CA	CH	DE	FR	GB	IT
TR	182	76	.	.	713	150	.	202
BE	93	6,139	201	1,878	2,147	2,351	4,451	1,235
CA	.	190	4,170	499	522	301	1,339	218
CH	.	1,342	443	6,939	5,325	2,596	4,768	2,250
DE	59	1,678	374	4,149	7,396	2,662	6,402	3,129
FR	234	2,083	309	1,894	3,672	15,993	5,315	2,726
GB	.	3,305	1,316	4,793	8,285	4,224	23,902	4,717
IT	169	1,038	188	1,880	3,564	2,472	5,040	4,128
JP	.	455	270	774	1,197	663	3,747	524
NL	106	2,236	140	1,320	2,958	996	2,821	716
SE	.	297	52	309	1,268	332	2,077	317
US	.	2,450	3,413	6,042	7,113	3,744	14,254	3,474
<b>Total G10</b>	.	<b>21,212</b>	<b>10,878</b>	<b>30,478</b>	<b>43,447</b>	<b>36,335</b>	<b>74,116</b>	<b>23,432</b>
<b>Total non-G10</b>	.	<b>6,738</b>	<b>2,317</b>	<b>9,296</b>	<b>22,840</b>	<b>9,605</b>	<b>27,799</b>	<b>9,311</b>
<b>Total all countries</b>	<b>4,384</b>	<b>27,950</b>	<b>13,196</b>	<b>39,774</b>	<b>66,287</b>	<b>45,940</b>	<b>101,915</b>	<b>32,743</b>

From/To	JP	NL	SE	US	Total G10	Non-G10	All countries
TR	.	91	.	.	.	.	3,665
BE	453	2,420	275	3,347	24,897	6,459	31,356
CA	333	132	49	4,728	12,482	2,777	15,260
CH	743	1,156	263	7,920	33,745	9,102	42,847
DE	1,054	2,331	695	7,925	37,797	18,077	55,874
FR	672	1,017	270	5,705	39,656	9,101	48,757
GB	4,615	2,425	1,527	16,019	75,128	25,313	100,441
IT	514	659	212	4,461	24,156	7,517	31,673
JP	3,446	229	98	8,570	19,974	9,963	29,937
NL	256	2,457	212	3,357	17,468	4,499	21,968
SE	117	310	2,050	1,781	8,909	3,603	12,513
US	6,649	2,780	1,270	24,924	76,112	62,347	138,459
<b>Total G10</b>	<b>18,852</b>	<b>15,916</b>	<b>6,921</b>	<b>88,737</b>	<b>370,325</b>	<b>158,759</b>	<b>529,083</b>
<b>Total non-G10</b>	<b>11,017</b>	<b>4,283</b>	<b>3,375</b>	<b>64,120</b>	<b>170,702</b>	<b>112,332</b>	<b>283,034</b>
<b>Total all countries</b>	<b>29,869</b>	<b>20,200</b>	<b>10,296</b>	<b>152,857</b>	<b>541,027</b>	<b>271,091</b>	<b>812,118</b>

Source: S.W.I.F.T.

## **Standard Red Book terms**





## Standard Red Book terms

<b>Advisory netting</b>	see position netting.
<b>Assured payment system (APS)</b>	an arrangement in an exchange-for-value system under which completion of timely settlement of a payment instruction is supported by an irrevocable and unconditional commitment from a third party (typically a bank, syndicate of banks or clearing house). See exchange-for-value settlement system.
<b>Automated clearing house (ACH)</b>	an electronic clearing system in which payment orders are exchanged among financial institutions, primarily via magnetic media or telecommunication networks, and handled by a data-processing centre. See also clearing.
<b>Automated teller machine (ATM)</b>	electro-mechanical device that permits authorised users, typically using machine-readable plastic cards, to withdraw cash from their accounts and/or access other services, such as balance enquiries, transfer of funds or acceptance of deposits. ATMs may be operated either online with real-time access to an authorisation database or offline.
<b>Bank draft</b>	in Europe, the term generally refers to a draft drawn by a bank on itself. The draft is purchased by the payer and sent to the payee, who presents it to his bank for payment. That bank presents it to the payer's bank for reimbursement. In the United States, the term generally refers to a draft or cheque drawn by a bank on itself or on funds deposited with another bank. In the case of a cashier's cheque, the bank is both the drawer and drawee. In the case of a teller's cheque, one bank is the drawer and a second bank is the drawee. Bank drafts may be written by a bank for its own purposes or may be purchased by a customer and sent to a payee to discharge an obligation. See draft.
<b>Batch</b>	the transmission or processing of a group of payment orders and/or securities transfer instructions as a set at discrete intervals of time.
<b>Beneficial ownership/interest</b>	the entitlement to receive some or all of the benefits of ownership of a security or other financial instrument (e.g. income, voting rights, power to transfer). Beneficial ownership is usually distinguished from "legal ownership" of a security or financial instrument. See legal ownership.
<b>Bilateral net settlement system</b>	a settlement system in which participants' bilateral net settlement positions are settled between every bilateral combination of participants. See also net credit or debit position.
<b>Bilateral netting</b>	an arrangement between two parties to net their bilateral obligations. The obligations covered by the arrangement may arise from financial contracts, transfers or both. See netting, multilateral netting, net settlement.
<b>Bill of exchange</b>	a written order from one party (the drawer) to another (the drawee) to pay a specified sum on demand or on a specified date to the drawer or to a third party specified by the drawer. Widely used to finance trade and, when discounted with a financial institution, to obtain credit. See also draft.
<b>Book-entry system</b>	an accounting system that permits the transfer of claims (e.g. securities) without the physical movement of paper documents or certificates. See also dematerialisation, immobilisation.

<b>Bulk transfer system</b>	see retail transfer system.
<b>Call money</b>	a loan contract which is automatically renewed every day unless the lender or the borrower indicates that it wishes the funds to be returned within a short period of time.
<b>Capital risk</b>	see principal risk.
<b>Caps</b>	for risk management purposes, the quantitative limits placed on the positions (debit or credit positions, which may be either net or gross) that participants in a funds or securities transfer system can incur during the business day. Caps may be set by participants on credit extended bilaterally to other participants in a system, e.g. bilateral credit limits, or by the system operator or by the body governing the transfer system on the aggregate net debit a participant may incur on the system, e.g. sender net debit limits. Sender net debit limits may be either collateralised or uncollateralised.
<b>Card</b>	see cash card, cheque guarantee card, chip card, credit card, debit card, delayed debit card, prepaid card, retailer's card, travel and entertainment card.
<b>Cash card</b>	card for use only in ATMs or cash dispensers (often, other cards also have a cash function that permits the holder to withdraw cash).
<b>Cash dispenser</b>	electro-mechanical device that permits consumers, typically using machine-readable plastic cards, to withdraw banknotes (currency) and, in some cases, coins. See also automated teller machine (ATM).
<b>Cashier's cheque</b>	see bank draft.
<b>Central bank credit (liquidity) facility</b>	a standing credit facility that can be drawn upon by certain designated account holders (e.g. banks) at the central bank. In some cases, the facility can be used automatically at the initiative of the account holder, while in other cases the central bank may retain some degree of discretion. The loans typically take the form either of advances or overdrafts on an account holder's current account which may be secured by a pledge of securities (also known as lombard loans in some European countries), or of traditional rediscounting of bills.
<b>Central securities depository</b>	a facility 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 (i.e. so that they exist only as electronic records). In addition to safekeeping, a central securities depository may incorporate comparison, clearing and settlement functions.
<b>Certificate</b>	physical document which evidences an ownership claim in, indebtedness of, or other outstanding financial obligations of the issuer.
<b>Chaining</b>	a method used in certain transfer systems (mostly for securities) for processing instructions. It involves the manipulation of the sequence in which transfer instructions are processed to increase the number or value of transfers that may be settled with available funds and/or securities balances (or available credit or securities lending lines).
<b>Charge card</b>	see travel and entertainment card.

<b>Cheque</b>	a written order from one party (the drawer) to another (the drawee, normally a bank) requiring the drawee to pay a specified sum on demand to the drawer or to a third party specified by the drawer. Widely used for settling debts and withdrawing money from banks. See also bill of exchange.
<b>Cheque guarantee card</b>	a card issued as part of a cheque guarantee system. This function may be combined with other functions in the same card, e.g. those of a cash card or debit card. See also cheque guarantee system.
<b>Cheque guarantee system</b>	a system to guarantee cheques, typically up to a specified amount, that have been validated by the merchant either on the basis of a card issued to the cheque writer or through a central database accessible to merchants. Validated cheques are guaranteed by the issuer of the guarantee card, the drawee bank or the system operator.
<b>Chip card</b>	also known as an IC (integrated circuit) card or smart card. A card containing one or more computer chips or integrated circuits for identification, data storage or special-purpose processing used to validate personal identification numbers (PINs), authorise purchases, verify account balances and store personal records. In some cases, the memory in the card is updated every time the card is used, e.g. an account balance is updated.
<b>Clearing/Clearance</b>	clearing is the process of transmitting, reconciling and in some cases confirming payment orders or security transfer instructions prior to settlement, possibly including netting of instructions and the establishment of final positions for settlement. In the context of securities markets this process is often referred to as clearance. Sometimes the terms are used (imprecisely) to include settlement.
<b>Clearing house</b>	a central location or central processing mechanism through which financial institutions agree to exchange payment instructions or other financial obligations (e.g. securities). The institutions settle for items exchanged at a designated time based on the rules and procedures of the clearing house. In some cases, the clearing house may assume significant counterparty, financial or risk management responsibilities for the clearing system. See clearing/clearance, clearing system.
<b>Clearing house funds</b>	term most commonly used in certain US markets to refer to funds that typically are provisional on the day of receipt and final on the following day. More specifically, the term is used to refer to monetary claims with next-day finality that are exchanged by participants in certain clearing house arrangements in settlement of obligations arising from the clearing process. Such claims are typically transferred via cheques, drafts or other similar payment
<b>Clearing system</b>	a set of procedures whereby 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 positions with a view to facilitating the settlement of their obligations on a net or net net basis. See also netting.
<b>Comparison</b>	see matching.

<b>Confirmation</b>	a particular connotation of this widely used term is the process whereby a market participant notifies its counterparties or customers of the details of a trade and, typically, allows them time to affirm or to question the trade.
<b>Correspondent banking</b>	an arrangement under which one bank (correspondent) holds deposits owned by other banks (respondents) and provides payment and other services to those respondent banks. Such arrangements may also be known as agency relationships in some domestic contexts. In international banking, balances held for a foreign respondent bank may be used to settle foreign exchange transactions. Reciprocal correspondent banking relationships may involve the use of so-called nostro and vostro accounts to settle foreign exchange transactions.
<b>Counterparty</b>	the opposite party to a financial transaction, such as a securities trade or swap agreement.
<b>Credit caps</b>	see caps.
<b>Credit card</b>	card indicating that the holder has been granted a line of credit. It enables him to make purchases and/or draw cash up to a prearranged ceiling; the credit granted can be settled in full by the end of a specified period or can be settled in part, with the balance taken as extended credit. Interest is charged on the amount of any extended credit and the holder is sometimes charged an annual fee.
<b>Credit card company</b>	a company which owns the trademark of a particular credit card, and may also provide a number of marketing, processing or other services to the members using the card services.
<b>Credit risk/exposure</b>	the risk that a counterparty will not settle an obligation for full value, either when due or at any time thereafter. In exchange-for-value systems, the risk is generally defined to include replacement cost risk and principal risk.
<b>Credit transfer</b>	a payment order or possibly a sequence of payment orders made for the purpose of placing funds at the disposal of the beneficiary. Both the payment instructions and the funds described therein move from the bank of the payer/originator to the bank of the beneficiary, possibly via several other banks as intermediaries and/or more than one credit transfer system.
<b>Credit transfer system (or giro system)</b>	a system through which payment instructions and the funds described therein may be transmitted for the purpose of effecting credit transfers.
<b>Cross-currency settlement risk (or Herstatt risk)</b>	see principal risk.
<b>Custody</b>	the safekeeping and administration of securities and financial instruments on behalf of others.
<b>Daylight credit (or daylight overdraft, daylight exposure, intraday credit)</b>	credit extended for a period of less than one business day; in a credit transfer system with end-of-day final settlement, daylight credit is tacitly extended by a receiving institution if it accepts and acts on a payment order even though it will not receive final funds until the end of the business day.
<b>Debit caps</b>	see caps.
<b>Debit card</b>	card enabling the holder to have his purchases directly charged to funds on his account at a deposit-taking institution (may sometimes be

	combined with another function, e.g. that of a cash card or cheque guarantee card).
<b>Debit transfer system (or debit collection system)</b>	a funds transfer system in which debit collection orders made or authorised by the payer move from the bank of the payee to the bank of the payer and result in a charge (debit) to the account of the payer; for example, cheque-based systems are typical debit transfer systems.
<b>Default</b>	failure to complete a funds or securities transfer according to its terms for reasons that are not technical or temporary, usually as a result of bankruptcy. Default is usually distinguished from a “failed transaction”.
<b>Delayed debit card</b>	card issued by banks indicating that the holder may charge his account up to an authorised limit. It enables him to make purchases but does not offer extended credit, the full amount of the debt incurred having to be settled at the end of a specified period. The holder is usually charged an annual fee.
<b>Deletion</b>	a mechanism whereby some or all transfers to/from a defaulting participant are excluded from the settlement process. In a netting scheme, other participants’ bilateral and/or multilateral net positions are recalculated. See unwinding.
<b>Delivery</b>	final transfer of a security or financial instrument.
<b>Delivery versus payment system (or DVP, delivery against payment)</b>	a mechanism in an exchange-for-value settlement system that ensures that the final transfer of one asset occurs if and only if the final transfer of (an)other asset(s) occurs. Assets could include monetary assets (such as foreign exchange), securities or other financial instruments. See exchange-for-value settlement system, final transfer.
<b>Dematerialisation</b>	the elimination of physical certificates or documents of title which represent ownership of securities so that securities exist only as accounting records.
<b>Direct debit</b>	a pre-authorised debit on the payer’s bank account initiated by the payee.
<b>Direct participant/member</b>	the term generally denotes participants in a funds or securities transfer system that directly exchange transfer orders with other participants in the system. In some systems direct participants also exchange orders on behalf of indirect participants. Depending on the system, direct participants may or may not also be settling participants. In the EC context this term has a specific meaning: it refers to participants in a transfer system which are responsible to the settlement institution (or to all other participants) for the settlement of their own payments, those of their customers and those of indirect participants on whose behalf they are settling. See participant/member, indirect participant/member, settling participant/member.
<b>Discharge</b>	release from a legal obligation imposed by contract or law.
<b>Draft</b>	a written order from one party (the drawer) to another (the drawee) to pay a party identified on the order (payee) or to bearer a specified sum, either on demand (sight draft) or on a specified date (time draft). See cheque, bank draft, bill of exchange.
<b>EFTPOS</b>	see point of sale (POS).
<b>Electronic data interchange (EDI)</b>	the electronic exchange between commercial entities (in some cases also public administrations), in a standard format, of data relating to a number of message categories, such as orders, invoices, customs documents, remittance advices and payments. EDI messages are sent

through public data transmission networks or banking system channels. Any movement of funds initiated by EDI is reflected in payment instructions flowing through the banking system. EDIFACT, a United Nations body, has established standards for electronic data interchange.

<b>Exchange-for-value settlement system</b>	system which involves the exchange of assets, such as money, foreign exchange, securities or other financial instruments, in order to discharge settlement obligations. These systems may use one or more funds transfer systems in order to satisfy the payment obligations that are generated. The links between the exchange of assets and the payment system(s) may be manual or electronic. See delivery versus payment system.
<b>Face-to-face payment</b>	payment carried out by the exchange of instruments between the payer and the payee in the same physical location.
<b>Failed transaction</b>	a transaction (e.g. a funds or securities transfer) that does not settle on time, usually for technical or temporary reasons.
<b>Final (finality)</b>	irrevocable and unconditional.
<b>Final settlement</b>	settlement which is irrevocable and unconditional.
<b>Final transfer</b>	an irrevocable and unconditional transfer which effects a discharge of the obligation to make the transfer. The terms “delivery” and “payment” are each defined to include a final transfer.
<b>Giro system</b>	see credit transfer system.
<b>Gridlock</b>	a situation that can arise in a funds or securities transfer system in which the failure of some transfer instructions to be executed (because the necessary funds or securities balances are unavailable) prevents a substantial number of other instructions from other participants from being executed. See also failed transaction, queuing, systemic risk.
<b>Gross settlement system</b>	a transfer system in which the settlement of funds or securities transfers occurs individually on an order-by-order basis according to the rules and procedures of the system, i.e. without netting debits against credits. See real-time gross settlement, net settlement system.
<b>Haircut</b>	the difference between the market value of a security and its collateral value. Haircuts are taken by a lender of funds in order to protect the lender, should the need arise to liquidate the collateral, from losses owing to declines in the market value of the security. See margin.
<b>Herstatt risk</b>	see principal risk.
<b>Home banking</b>	banking services which a retail customer of a financial institution can access using a telephone, television set, terminal or personal computer as a telecommunication link to the institution’s computer centre.
<b>IC card</b>	see chip card.
<b>Immobilisation</b>	Placement of certificated securities and financial instruments in a central securities depository to facilitate book-entry transfers.
<b>Imprinter</b>	mechanical device to reproduce the name and account number of a cardholder on a paper sales slip. See also imprinter voucher.
<b>Imprinter voucher</b>	in card transactions, a sales slip that is to be signed by the customer on which the name and card number of the customer are imprinted. See also imprinter.

<b>Indirect participant/member</b>	refers to a funds or securities transfer system in which there is a tiering arrangement. Indirect participants are distinguished from direct participants by their inability to perform some of the system activities (e.g. input of transfer orders, settlement) performed by direct participants. Indirect participants, therefore, require the services of direct participants to perform those activities on their behalf. In the EC context the term refers more specifically to participants in a transfer system which are responsible only to their direct participants for settling the payments input to the system. See direct participant/member, settling participant/member, tiering arrangement.
<b>Interbank funds transfer system (IFTS)</b>	a funds transfer system in which most (or all) direct participants are financial institutions, particularly banks and other credit institutions.
<b>Intraday credit</b>	see daylight credit.
<b>Irrevocable and unconditional transfer</b>	a transfer which cannot be revoked by the transferor and is unconditional.
<b>Issuer</b>	the entity which is obligated on a security or other financial instrument. For example, a corporation or government having the authority to issue and sell a security; a bank that approves a letter of credit. Sometimes used to refer to a financial institution that issues credit or debit cards.
<b>Large-value funds transfer system</b>	interbank funds transfer system through which large-value and high-priority funds transfers are made between participants in the system for their own account or on behalf of their customers. Though as a rule no minimum value is set for the payments they carry, the average size of payments through such systems is relatively large. Large-value funds transfer systems are sometimes called wholesale funds transfer systems.
<b>Legal ownership</b>	recognition in law as the owner of a security or other financial instrument.
<b>Letter of credit (L/C)</b>	a promise by a bank or other issuer to a third party to make payment on behalf of a customer in accordance with specified conditions. Frequently used in international trade to make funds available in a foreign location.
<b>Liquidity risk</b>	the risk that a counterparty (or participant in a settlement system) will not settle an obligation for full value when due. Liquidity risk does not imply that a counterparty or participant is insolvent since it may be able to settle the required debit obligations at some unspecified time thereafter.
<b>Loss-sharing rule (or loss-sharing agreement)</b>	an agreement between participants in a transfer system or clearing house arrangement regarding the allocation of any loss arising when one or more participants fail to fulfil their obligation: the arrangement stipulates how the loss will be shared among the parties concerned in the event that the agreement is activated.
<b>Magnetic ink character recognition (MICR)</b>	a technique, using special MICR machine-readable characters, by which documents (i.e. cheques, credit transfers, direct debits) are read by machines for electronic processing. See optical character recognition (OCR).
<b>Margin</b>	margin has at least two meanings. In the futures/commodity markets, margin is a good faith deposit (of money, securities or other financial instruments) required by the futures clearing system to assure performance. In the equities markets, margin is a sum of money deposited by a customer when borrowing money from a broker to purchase shares. The money deposited with the broker is the difference

	between the purchase value of the shares and the collateral value of the shares. See haircut.
<b>Marking to market</b>	the practice of revaluing securities and financial instruments using current market prices. In some cases unsettled contracts to purchase and sell securities are marked to market and the counterparty with an as yet unrealised loss on the contract is required to transfer funds or securities equal to the value of the loss to the other counterparty.
<b>Matching (or comparison checking)</b>	the process used by market participants before settlement of a transaction to ensure that they agree with respect to the terms of the transaction.
<b>Money order</b>	an instrument used to remit money to the named payee, often used by persons who do not have a chequing account relationship with a financial institution, to pay bills or to transfer money to another person or to a company. There are three parties to a money order: the remitter (payer), the payee and the drawee. Drawees are usually financial institutions or post offices. Payees can either cash their money orders or present them to their bank for collection.
<b>Multilateral net settlement position</b>	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.
<b>Multilateral net settlement system</b>	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. See multilateral netting, multilateral net settlement position, settling participant and direct participant.
<b>Multilateral netting</b>	an arrangement among three or more parties to net their obligations. The obligations covered by the arrangement may arise from financial contracts, transfers or both. The multilateral netting of payment obligations normally takes place in the context of a multilateral net settlement system. See bilateral netting, multilateral net settlement position, multilateral net settlement system.
<b>Net credit or debit position</b>	a participant's net credit or net debit position in a netting system is the sum of the value of all the transfers it has received up to a particular point in time less the value of all transfers it has sent. If the difference is positive, the participant is in a net credit position; if the difference is negative, the participant is in a net debit position. The net credit or net debit position at settlement time is called the net settlement position. These net positions may be calculated on a bilateral or multilateral basis.
<b>Net debit cap</b>	see caps, net credit or debit position.
<b>Net settlement</b>	the settlement of a number of obligations or transfers between or among counterparties on a net basis. See netting.
<b>Net settlement system</b>	a system to effect net settlement.
<b>Netting</b>	an agreed offsetting of positions or obligations by trading partners or participants. The netting reduces a large number of individual positions or obligations to a smaller number of obligations or positions. Netting may take several forms which have varying degrees of legal enforceability in the event of default of one of the parties. See also



	bilateral and multilateral netting, position netting, novation, substitution.
<b>Nominee</b>	a person or entity named by another to act on his behalf.
<b>Novation</b>	satisfaction and discharge of existing contractual obligations by means of their replacement by new obligations (whose effect, for example, is to replace gross with net payment obligations). The parties to the new obligations may be the same as to the existing obligations or, in the context of some clearing house arrangements, there may additionally be substitution of parties. See substitution.
<b>Obligation</b>	a duty imposed by contract or law. It is also used to describe a security or other financial instrument, such as a bond or promissory note, which contains the issuer's undertaking to pay the owner.
<b>Offline</b>	in the context of payment and settlement systems, the term may refer to the transmission of transfer instructions by users, through such means as voice, written or telefaxed instructions, that must subsequently be input into a transfer processing system. The term may also refer to the storage of data by the transfer processing system on media such as magnetic tape or disk such that the user may not have direct and immediate access to the data. See online.
<b>Online</b>	in the context of payment and settlement systems, the term may refer to the transmission of transfer instructions by users, through such electronic means as computer-to-computer interfaces or electronic terminals, that are entered into a transfer processing system by automated means. The term may also refer to the storage of data by the transfer processing system on a computer database such that the user has direct access to the data (frequently real-time) through input/output devices such as terminals. See offline.
<b>Optical character recognition (OCR)</b>	a technique, using special OCR machine-readable characters, by which documents (e.g. cheques, credit transfers, direct debits) are read by machines for electronic processing. See magnetic ink character recognition (MICR).
<b>Overnight money (or day-to-day money)</b>	a loan with a maturity of one business day.
<b>Paperless credit transfers</b>	credit transfers that do not involve the exchange of paper documents between banks. Other credit transfers are called paper-based.
<b>Participant/Member</b>	a party who participates in a transfer system. This generic term refers to an institution which is identified by a transfer system (e.g. by a bank identification number) and is allowed to send payment orders directly to the system or which is directly bound by the rules governing the transfer system. See direct participant/member, indirect participant/member.
<b>Payment</b>	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.
<b>Payment lag</b>	the time-lag between the initiation of the payment order and its final settlement.
<b>Payment order (or payment instruction)</b>	an order or message requesting the transfer of funds (in the form of a monetary claim on a party) to the order of the payee. The order may relate either to a credit transfer or to a debit transfer.

<b>Payment system</b>	a payment system consists of a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money.
<b>PIN (personal identification number)</b>	a numeric code which the cardholder may need to quote for verification of identity. In electronic transactions, it is seen as the equivalent of a signature.
<b>Point of sale (POS)</b>	this term refers to the use of payment cards at a retail location (point of sale). The payment information is captured either by paper vouchers or by electronic terminals, which, in some cases, are designed also to transmit the information. Where this is so, the arrangement may be referred to as “electronic funds transfer at the point of sale” (EFTPOS).
<b>Position netting (or advisory netting)</b>	the netting of instructions in respect of obligations between two or more parties which neither satisfies nor discharges those original individual obligations. Also referred to as payment netting in the case of payment instructions.
<b>Prepaid card (or payment card)</b>	a card “loaded” with a given value, paid for in advance.
<b>Principal risk</b>	the credit risk that a party will lose the full value involved in a transaction. In the settlement process, this term is typically associated with exchange-for-value transactions when there is a lag between the final settlement of the various legs of a transaction (i.e. the absence of delivery versus payment). Principal risk that arises from the settlement of foreign exchange transactions is sometimes called cross-currency settlement risk or Herstatt risk. See credit risk.
<b>Provisional transfer</b>	a conditional transfer in which one or more parties retain the right by law or agreement to rescind the transfer.
<b>Queuing</b>	a risk management arrangement whereby transfer orders are held pending by the originator/deliverer or by the system until sufficient cover is available in the originator’s/deliverer’s clearing account or under the limits set against the payer; in some cases, cover may include unused credit lines or available collateral. See also caps.
<b>Real-time gross settlement (RTGS)</b>	a gross settlement system in which processing and settlement take place in real time (continuously).
<b>Real-time transmission, processing or settlement</b>	the transmission, processing or settlement of a funds or securities transfer instruction on an individual basis at the time it is initiated.
<b>Receiver finality</b>	analytical rather than operational or legal term used to describe the point at which an unconditional obligation arises on the part of the receiving participant in a transfer system to make final funds available to its beneficiary customer on the value date. See final settlement.
<b>Registration</b>	the listing of ownership of securities in the records of the issuer or its transfer agent/registrar.
<b>Remote participant</b>	a participant in a transfer system which has neither its head office nor any of its branches located in the country where the transfer system is based.
<b>Remote payment</b>	payment carried out through the sending of payment orders or payment instruments (e.g. by mail). Contrast with face-to-face payment.

<b>Replacement cost risk (or market risk, price risk)</b>	the risk that a counterparty to an outstanding transaction for completion at a future date will fail to perform on the settlement date. This failure may leave the solvent party with an unhedged or open market position or deny the solvent party unrealised gains on the position. The resulting exposure is the cost of replacing, at current market prices, the original transaction. See also credit risk.
<b>Respondent</b>	see correspondent banking.
<b>Retailer's card</b>	a card issued by non-banking institutions, to be used in specified stores. The holder of the card has usually been granted a line of credit.
<b>Retail transfer system</b>	interbank funds transfer system which handles a large volume of payments of relatively low value in such forms as cheques, credit transfers, direct debits, ATM transactions and EFT at the point of sale.
<b>Same-day funds</b>	money balances that the recipient has a right to transfer or withdraw from an account on the day of receipt.
<b>Securities depository (book-entry system)</b>	see central securities depository.
<b>Sender finality</b>	analytical rather than operational or legal term used to describe the point at which an unconditional obligation arises on the part of the initiating participant in a funds transfer system to make final payment to the receiving participant on the value date. See final settlement.
<b>Settlement</b>	an act that discharges obligations in respect of funds or securities transfers between two or more parties. See gross and net settlement system, net settlement, final settlement.
<b>Settlement agent</b>	an institution that manages the settlement process (e.g. the determination of settlement positions, monitoring the exchange of payments, etc.) for transfer systems or other arrangements that require settlement. See final settlement, settlement, settlement institution(s), multilateral net settlement system.
<b>Settlement finality</b>	see final settlement.
<b>Settlement institution(s)</b>	the institution(s) across whose books transfers between participants take place in order to achieve settlement within a settlement system. See settling participant/member, settlement agent, multilateral net settlement system, bilateral net settlement system.
<b>Settlement lag</b>	in an exchange-for-value process, the time-lag between entering into a trade/bargain and its discharge by the final exchange of a financial asset for payment. See payment lag.
<b>Settling participant/member</b>	in some countries, a settling participant in a funds or securities transfer system delivers and receives funds or securities to/from other settling participants through one or more accounts at the settlement institution for the purpose of settling funds or securities transfers for the system. Other participants require the services of a settling participant in order to settle their positions. Currently in the EC direct participants are by definition also settling participants. See direct participant/member, tiering arrangement.
<b>Settlement risk</b>	general term used to designate the risk that settlement in a transfer system will not take place as expected. This risk may comprise both credit and liquidity risk.
<b>Settlement system</b>	a system in which settlement takes place.

<b>Standing order</b>	an instruction from a customer to his bank to make a regular payment of a fixed amount to a named creditor.
<b>Substitution</b>	the substitution of one party for another in respect of an obligation. In a netting and settlement context the term typically refers to the process of amending a contract between two parties so that a third party is interposed as counterparty to each of the two parties and the original contract between the two parties is satisfied and discharged. See novation.
<b>S.W.I.F.T. (Society for Worldwide Interbank Financial Telecommunication)</b>	a cooperative organisation created and owned by banks that operates a network which facilitates the exchange of payment and other financial messages between financial institutions (including broker-dealers and securities companies) throughout the world. A S.W.I.F.T. payment message is an instruction to transfer funds; the exchange of funds (settlement) subsequently takes place over a payment system or through correspondent banking relationships.
<b>Systemic risk</b>	the risk that the failure of one participant in a transfer system, or in financial markets generally, to meet its required obligations will cause other participants or financial institutions to be unable to meet their obligations (including settlement obligations in a transfer system) when due. Such a failure may cause significant liquidity or credit problems and, as a result, might threaten the stability of financial markets.
<b>Telematics</b>	the combined use of data-processing and data-transmission techniques.
<b>Teller's cheque</b>	see bank draft.
<b>Tiering arrangement</b>	an arrangement which may exist in a funds or securities transfer system whereby participants in one category require the services of participants in another category to exchange and/or settle their transactions. See direct, indirect and settling participant/member.
<b>Trade date</b>	the date on which a trade/bargain is struck.
<b>Trade netting</b>	a consolidation and offsetting of individual trades into net amounts of securities and money due between trading partners or among members of a clearing system. A netting of trades which is not legally enforceable is a position netting.
<b>Trade-for-trade (gross) settlement</b>	the settlement of individual transactions between counterparties. See gross settlement system.
<b>Trade-for-trade settlement system</b>	see gross settlement system.
<b>Transfer</b>	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, security or other financial instrument being transferred.
<b>Transfer system</b>	a generic term covering interbank funds transfer systems and exchange-for-value systems.

<b>Travel and entertainment (charge) card</b>	card issued by non-banks indicating that the holder has been granted a line of credit. It enables him to make purchases but does not offer extended credit, the full amount of the debt incurred having to be settled at the end of a specified period. The holder is usually charged an annual fee.
<b>Truncation</b>	a procedure in which the physical movement of paper payment instruments (e.g. paid cheques or credit transfers) within a bank, between banks or between a bank and its customer is curtailed or eliminated, being replaced, in whole or in part, by electronic records of their content for further processing and transmission.
<b>Ultimate settlement</b>	sometimes used to denote final settlement in central bank money.
<b>Unwinding (or settlement unwind)</b>	a procedure followed in certain clearing and settlement systems in which transfers of securities or funds are settled on a net basis, at the end of the processing cycle, with all transfers provisional until all participants have discharged their settlement obligations. If a participant fails to settle, some or all of the provisional transfers involving that participant are deleted from the system and the settlement obligations from the remaining transfers are then recalculated. Such a procedure has the effect of transferring liquidity pressures and possibly losses from the failure to settle to other participants, and may, in the extreme, result in significant and unpredictable systemic risks.
<b>Variation margin (or mark-to-market payments)</b>	the amount which is paid by a counterparty to reduce replacement cost exposures resulting from changes in market prices, following the revaluation of securities or financial instruments that are the subject of unsettled trades.
<b>Wholesale funds transfer system</b>	see large-value funds transfer system.

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