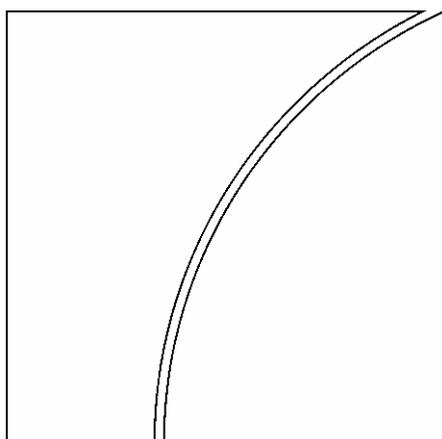


# Committee on Payment and Settlement Systems



## Payment systems in Lebanon

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

November 2003



BANK FOR INTERNATIONAL SETTLEMENTS

Copies of publications are available from:

Bank for International Settlements  
Press & Communications  
CH-4002 Basel, Switzerland

E-mail: [publications@bis.org](mailto:publications@bis.org)

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

This publication is available on the BIS website ([www.bis.org](http://www.bis.org)).

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ISBN 92-9131-657-1 (print)

ISBN 92-9197-657-1 (online)

## Foreword

The Committee on Payment and Settlement Systems (CPSS) periodically publishes - under the aegis of the Bank for International Settlements (BIS) - reference works on payment systems in various countries, widely known as Red Books. The CPSS has invited the central banks of a number of countries where important developments in payment systems are under way to prepare - in collaboration with its Secretariat at the BIS - separate volumes on their respective payment systems. The present volume, the second edition of the Red Book for Lebanon, is a further step towards increasing our understanding of the way payment systems work in different countries.

The first edition of the Red Book for Lebanon was published in September 1998. Since then, significant developments in the Lebanese payment systems and the promulgation of new laws and regulations related to payment instruments, clearing and settlement have made an updated version timely.

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

Central banks have a strong interest in promoting safety and improving efficiency in payment systems. They play a key role in domestic payment system development and, in many cases, operate large-value payment systems. Central banks in many countries have been influential in improving public understanding of payment and settlement arrangements in their countries and public awareness of the various policy issues connected with such arrangements.

Payment systems include not only retail money transfer systems used by businesses and consumers for commercial purposes but also large-value interbank funds transfer systems that underpin the money and credit markets of market-oriented economies. Systems for the settlement of securities transactions and the related payments are also key elements in financial system infrastructure.

We hope that this volume will contribute to the general understanding and awareness of payment and settlement arrangements in Lebanon, both domestically and internationally.

Both editions of the Red Book have been the result of cooperation between the Central Bank of Lebanon and the CPSS Secretariat. Within the central bank, the work has been coordinated by Dr Nasser Saidi, First Vice-Governor and Chairman of the Committee on Modern Banking and Financial Techniques and Information Technology (COBIT) until 31 July 2003, with contributions from Midclear and from the following departments of the central bank: Statistics and Economic Research, Current Operations, Financial Operations, Foreign Exchange and International Operations, Financial Markets, Treasury, Information Technology and Legal.

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Chairman, Committee on  
Payment and Settlement Systems

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## Abbreviations

ABL	Association of Banks in Lebanon
ATM	automated teller machine - see list of terms
BCC	Banking Control Commission
BCH	Beirut Clearing House
BDL	Banque du Liban
BIS	Bank for International Settlements
BSE	Beirut Stock Exchange
CCI	Centrale des Chèques Impayés
CDs	certificates of deposit
COBIT	Committee on Modern Banking and Financial Techniques and Information Technology
DVP	delivery versus payment - see list of terms
GDRs	global depository receipts
HBC	Higher Banking Commission
KC	Kafalat Corporation
LRR	legal reserve requirement
NDGI	National Deposit Guarantee Institution
OTC	over-the-counter (market)
PIN	personal identification number - see list of terms
RAP	remote access point
RTGS	real-time gross settlement - see list of terms
SAMA	Swift Automated Messages Application
SeBIL	Secure Banking and Information for Lebanon
SIC	Special Investigation Commission
SMEs	small and medium-sized enterprises
SWIFT	Society for Worldwide Interbank Financial Telecommunication - see list of terms



## Introduction

After 17 years of political and economic instability (1975-92, with the period 1990-92 known as a transitional period), the Lebanese economy started to recover and rebuild, achieving success in rebuilding its physical infrastructure and institutions, reforming its administration and achieving political change and reform. Lebanon encountered difficulties in evolving its payment systems and a host of technical obstacles needed to be overcome. The reactivation of the economy was, however, dependent on the development of the banking sector and the financial markets and on their success in providing the funds needed for reconstructing and rehabilitating the infrastructure. In this context, in order to facilitate the provision of finance and help Beirut regain its status as a regional financial centre, it was essential to develop the payment systems and to modernise and update existing laws and regulations. The Banque du Liban (BDL, Central Bank of Lebanon) has had two major objectives in relation to the payment system: (i) to develop and modernise the emerging system and its infrastructure; and (ii) to maintain and improve its stability, security and performance as a multicurrency system with substantial co-circulation of domestic and foreign currencies (referred to as dollarisation).

The currency of Lebanon is the Lebanese pound (LBP), but US dollars (USD) also circulate freely. The BDL intervenes to maintain orderly conditions in the foreign exchange market. The US dollar is used as the intervention currency and a tight intervention band is maintained vis-à-vis the US dollar.<sup>1</sup>

Lebanon's exchange and external payments environment is characterised by: (1) a free exchange rate system, with no restrictions on purchases or sales of foreign currencies (the Lebanese pound is fully convertible and can be exchanged freely with any other currency, with the exception of the new Israeli shekel); (2) free movement of capital, with no restrictions on flows into or out of the Lebanese markets; and (3) a multicurrency system in which foreign currencies circulate in the market.

The main payment instruments used by the public are cash, cheques and payment cards. Cheques in domestic and foreign currencies are settled through the BDL's clearing houses. Payment card payments were until recently settled through international networks. Since the end of 2002, however, there has been a requirement that all clearing and settlement should be performed domestically and that ATMs should accept all types of cards authorised and listed by the BDL.

Payment instructions for the banking and financial sector are settled primarily by the BDL for BDL account holders. International transfers not executed through the BDL are transacted via correspondents or through banks' proprietary arrangements.

The clearing and settlement of financial instruments is carried out through Midclear - the Custodian and Clearing Centre of Financial Instruments for Lebanon and the Middle East. Midclear is also the central depository for Lebanon and is the central registrar for banks' shares.

The main developments that are currently being planned for Lebanon's payment and settlement systems are:

- Establishing a real-time gross settlement (RTGS) system to enable banks to transfer and settle large-value payments in real time (continuously) through electronic book entries.
- Introducing new legislation covering all types of transfer, including electronic transfers and electronic signature, with a view to making possible the creation of a settlement system for interbank payment orders.
- Modernising systems for retail payments (cheques and ATMs) and government payments (utilities, taxes, etc).
- Improving the clearing and settlement system for securities in the Beirut Stock Exchange (BSE) and Midclear.
- Promoting electronic banking while minimising any resulting security and other risk concerns.

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<sup>1</sup> The current intervention band is 1501-1514, representing 0.866% around central rate.

- Creating a virtual private network for banks in Lebanon as a secure infrastructure for the banking and financial sectors, called Secure Banking and Information for Lebanon (SeBIL), and based on electronic transfer of transactions and related data.
- Creating a banking portal for Lebanon to facilitate retrieval of financial data through the internet and, in the future, execution of financial and banking transactions.

The Committee on Modern Banking and Financial Techniques and Information Technology (COBIT), created on 20 March 2001, has important responsibilities in relation to these developments. COBIT is a forum for cooperation between the BDL, the banking sector and other private and public bodies - see also Section 1.2.

## **1. Institutional aspects**

### **1.1 General institutional framework**

#### **1.1.1 General legal aspects**

The legal framework for banking, finance and commerce in Lebanon consists primarily of the Money and Credit Code and the Commercial Code. The Money and Credit Code governs the activities of the BDL and of the financial and banking system. The Code was promulgated by Decree No 13513 dated 1 August 1963 and is divided into six chapters covering: (1) money; (2) the central bank; (3) banking regulations; (4) sanctions; (5) transitory provisions; and (6) miscellaneous and final provisions. The Commercial Code, promulgated in April 1943, is the legal framework for commercial activities in general. It includes the fundamental principles that govern the use of bills of exchange and cheques.

Lebanon has accepted the obligations of Article VIII, Sections 2, 3 and 4 of the IMF Articles of Agreement, which stipulate that "no member shall, without the approval of the Fund, impose restrictions on the making of payments and transfers for current international transactions". There are therefore no restrictions on international payments or on the import or export of the national currency and foreign currencies, with the exception of the new Israeli shekel. Banks and financial institutions are, however, prohibited under Basic Decision No 7274, dated 15 April 1999, from receiving deposits in Lebanese pounds from non-resident banks, financial institutions and money dealers and from extending credits to them or opening accounts with them in Lebanese pounds. This restriction does not apply to guarantees issued by non-resident banks and financial institutions as collateral for loans in Lebanese pounds, provided that such loans are for commercial or investment activities in Lebanon. Neither does the restriction apply to cheques in Lebanese pounds collected for the account of non-resident banks, financial institutions and foreign exchange dealers, provided that the latter transfer the value of the cheques to a foreign currency account.

The Lebanese banking and financial sectors enjoy the benefits of a modern legal and regulatory environment, particularly with respect to banking secrecy, the free banking zone, fiduciary activities and anti-money laundering measures.

- The Banking Secrecy Law enacted on 3 September 1956 subjects all banks operating in Lebanon (ie Lebanese banks and branches of foreign banks established in Lebanon) to banking secrecy. Bank managers and employees engaged in banking activities are bound to banking secrecy concerning their customers' names and assets and may not disclose such information to third parties, unless the customer or his/her heirs or legatees has given written authorisation or a written request has been presented by the judicial authorities in cases of bankruptcy, suspected money laundering, litigation between the bank and the customer, or suspected illicit accumulation of wealth. (Law No 154 dated 27 December 1999 relates to illicit accumulation of wealth.)

However, in order to manage the risk of banks' assets and investments, the Banking Secrecy Law allows banks to exchange information on the debtor accounts of their customers. Information is exchanged through the "Centrale des Risques" (credit risk office) established at the BDL in accordance with Article 147 of the Money and Credit Code.

- The law relating to fiduciary operations dated 6 June 1996 allows banks and financial institutions to carry out off-balance sheet business, enabling them to conduct fiduciary operations with trustees and beneficiaries. Fiduciary operations are based on a contract whereby a natural person or a legal entity, referred to as “the constituent”, grants a person, called “the trustee”, the right, for a limited period, to manage and to dispose of rights or negotiable assets called “the fiduciary estate”. Banks are also required to ensure transparency and creditworthiness with respect to these operations, which have to be conducted under qualified management.
- Law No 318 dated 20 April 2001 relates to fighting money laundering and is designed to comply with the FATF<sup>2</sup> principles. This law provides for the creation of an independent legal entity with judicial status, known as the “Special Investigation Commission” (SIC), which was established in April 2001 at the BDL. It discharges its duties independently of the authority of the BDL. The establishment of the SIC represents both a stage in the rapid evolution of the Lebanese anti-money laundering laws and regulations and a response to the growing international demands to comply with newly established international standards. (It is one of several such responses. Another is Law No 253 of 30 December 2000, which made it illegal to establish offshore banks in Lebanon.) The SIC’s mandate is to investigate money laundering operations, and to monitor compliance with the rules and procedures stipulated by the relevant law. It has the exclusive authority to lift banking secrecy on accounts and to freeze them in cases where it determines that concealment of money laundering activities has taken place. It refers such cases to the Higher Banking Commission (HBC) (see Section 1.3.1) and the State Prosecutor.

There has also been recent legislation to establish new categories of financial institutions (financial leasing companies, financial intermediaries and mutual funds), as described in Section 1.1.2.

With specific relevance to payment and settlement in Lebanon, there have been a number of recent legal and regulatory developments. The following are the most significant:

- The modification of the role of the BDL by virtue of Law No 133/99 dated 26 October 1999. The Law extends the prerogatives, duties and responsibilities of the BDL to: (1) developing and regulating payment systems, especially with regard to ATMs and payment cards; (2) developing and regulating transfer payments, including electronic payments; and (3) developing and regulating clearing and settlement operations related to payment systems and financial instruments.
- The creation of the “Arab Clearing House” on 26 October 1999 under Law No 138. The intention is for the Clearing House to settle stock operations between Arab financial markets as well as with other financial markets and later to expand its activities to include bonds and other financial instruments.
- The creation of Midclear as a central depository and clearing house for financial instruments for Lebanon and the Middle East under Law No 139 dated 26 October 1999. Midclear is owned by the BDL and its main functions include: (1) acting as a custodian of financial instruments; (2) effecting the clearing and settlement of securities transactions; (3) effecting the settlement of securities transactions between brokerage institutions; (4) facilitating market trading by the use of a book entry system; and (5) acting as proxy for companies issuing new shares in the market.
- The introduction of a book entry system for securities and movable assets in bearer form under Law No 159 dated 27 December 1999. Banks, financial institutions and brokerage firms are permitted to open such accounts (including joint accounts, subject to the relevant provisions of the law on joint accounts dated 19 December 1961).
- The creation of one standard payment card accepted by all ATMs by virtue of the BDL’s Amendment of Basic Decision No 7299 of 10 June 1999. This Basic Decision also provides that clearing and settlement relating to the use of domestic and international cards in

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<sup>2</sup> [www.oecd.org/fatf](http://www.oecd.org/fatf).

Lebanon should be performed domestically, ie without passing through international networks (see also Section 2.3.6).

- The introduction of measures to control financial and banking transactions effected through electronic means. Basic Decision No 7548 of 30 March 2000 issued by the BDL provides that any bank, financial institution, financial intermediary, mutual fund or other institution supervised by the BDL wishing to conduct any of its previously approved activities through electronic means should notify the central bank in advance, giving the BDL the opportunity to consider the institution's compliance with norms of transparency, integrity and security.

### **1.1.2 General institutional aspects**

#### *Composition of the banking and financial sectors*

The Lebanese banking and financial sectors comprised, as at December 2001, 60 commercial banks with 780 operating branches, including 14 foreign banks with 48 branches; eight medium- and long-term banks with 10 branches, also known as investment banks; and 28 financial institutions with 32 branches, five financial intermediaries, 370 money dealers, 962 mutual funds (of which 958 are foreign) and three leasing companies. These institutions are all licensed by the BDL.

Lebanese banks have traditionally had an active presence abroad, especially during the war, when Lebanese banks found it necessary to start offshore operations and/or open branches abroad to manage capital outflows. As at December 2001, there were 16 branches of Lebanese banks abroad. The opening and licensing of representative offices for Lebanese banks abroad is regulated by Basic Decision No 7218 dated 4 February 1999. Conversely, a number of foreign banks have established subsidiaries and branches in Lebanon, particularly since 1994, marking a return to economic and political stability.

The Central Council<sup>3</sup> of the BDL sets policies on money supply, credit, discount and interest rates on lending. It discusses and decides on all internal matters regarding the BDL and sets rules regulating the banking and financial sectors and the licensing of all banking and related financial institutions, except for insurance companies. Licensed institutions must adhere to the rules and regulations issued by the BDL and the Banking Control Commission (BCC). The Governor and/or the HBC have the authority to withdraw a licence.

#### *Commercial banks*

Chapter 3 of the Money and Credit Code, "Banking Regulations", sets the rules for the establishment and activities of commercial banks. The conditions for establishing and licensing a commercial bank and/or an investment bank are set out under Basic Decision No 7739 of 21 December 2000. The main objective of most commercial banks is to accept deposits and grant credits. Thus, their main functions are to provide banking services for depositors (such as a cash registry service, portfolio management, provision of safe deposit boxes, payment of due invoices, settlement of foreign exchange operations) and to extend credit, mostly of a short-term nature, against collateral and guarantees. Law No 520 of 6 June 1996, however, also made it possible for a commercial bank's main or even sole objective to be the carrying out of fiduciary operations. Commercial banks are not allowed to engage in financial intermediation on the floor of the BSE, as specified in Basic Decision No 5996 of 7 September 1995.

#### *Medium- and long-term banks*

Legislative Decree No 50 of 15 July 1983, amended by Basic Decision No 6101 dated 8 February 1996, defines and regulates the activities of medium- and long-term banks, referred to as "specialised banks". The main economic objective of such banks is to carry out medium- and long-term investment activities that cannot be undertaken by commercial banks, either because of legal provisions or because the short-term nature of their resources does not enable them to invest in the medium or long

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<sup>3</sup> Composed of the Governor of the BDL as Chairman, the four Vice Governors of the BDL, the Director General of the Ministry of Finance and the Director General of the Ministry of Economy and Trade.

term. As in the case of commercial banks, Law No 520 of 6 June 1996 made it possible for the main or sole objective of specialised banks to be the carrying out of fiduciary operations. Basic Decision No 5996 of 7 September 1995, in accordance with Legislative Decree No 50, allows medium- and long-term banks to engage in financial intermediation on the floor of the BSE and to provide all financial services permitted by the BSE Law and Regulations.

#### *Financial institutions*

Basic Decision No 7136 of 22 October 1998 regulates the conditions governing the establishment and activities of financial institutions. The main objective of a financial institution is to carry out credit operations (such as discount, commercial or documentary credit, overdraft, credit against real or personal guarantees, provision of guarantees) from its shareholders' equity capital, with funds acquired from banks and other financial institutions, or by issuing bonds in accordance with rules specified by the BDL. A financial institution is allowed to engage in financial intermediation on the floor of the BSE and can also, as secondary activities, carry out: (1) financial intermediation through the purchase and sale of financial instruments and rights, either for its own account or on behalf of its customers; (2) portfolio management; (3) financial consultancy; (4) underwriting of securities; (5) real estate management; (6) fiduciary operations; (7) the formation and management of mutual funds; and (8) leasing operations.

#### *Financial intermediaries*

Law No 234 of 10 June 2000 established financial intermediaries as a category of institution. This law and Basic Decisions Nos 6213 of 28 June 1996 and 6464 of 28 January 1997 set the conditions for their establishment and operation under the central bank's supervision. Only banks and financial institutions registered with the BDL and Lebanese joint stock companies and/or branches of foreign companies whose main activity in Lebanon is financial intermediation are eligible to apply to the BDL for licensing and registration as a financial intermediary. Financial intermediaries are not allowed to receive deposits or to carry out any activity other than brokerage. Brokerage includes the following operations either for the institution's own account or on behalf of its customers: (1) operations in marketable financial instruments or securities (spots, forwards, futures, options, swaps, derivatives), shares of all types, government and public bonds, financial and commercial paper, certificates of deposit, currencies, precious metals and commodities; (2) portfolio management; and (3) fiduciary operations. A clear separation must be maintained between the institution's own and its customers' accounts.

#### *Money dealers*

Law No 42/87, dated 21 November 1987, and Law No 347, dated 6 August 2001, regulate the establishment and activities of money dealers in Lebanon, who need to be licensed and registered by the BDL. Although money dealers primarily serve retail customers, they may also serve wholesale customers or deal on their own account. Most money dealers operate as single establishments; very few run a branch network. They are permitted to transact foreign exchange business (including the exchange of notes and coins, foreign currency remittances and the negotiation of traveller's cheques) and to trade in precious metals. Money dealers with a minimum capital of LBP 250 million are permitted to deal in precious metals without a specific limit and to export money. The latter activity requires prior authorisation from the BDL if it is effected electronically, but not if it is effected by other means. Money dealers with a capital between LBP 100 million and LBP 250 million are restricted to amounts below 1,000 grams when dealing in precious metals and the maximum aggregate amount of traveller's cheques they can negotiate at any time is USD 10,000. Furthermore, they are not permitted to export money or to make electronic transfers.

#### *Mutual funds*

Basic Decision No 7074 of 5 September 1998 regulates the establishment and activities of foreign and domestic mutual funds in Lebanon. No person or company may collect funds, either regularly or occasionally, for the purpose of creating, managing or marketing mutual funds without the prior approval of the BDL. Only domestic companies and/or branches of foreign companies which specialise in managing mutual funds and which do not practise any activity in conflict with this specialisation are eligible. Only approved mutual funds may be issued and marketed for public subscription in Lebanon.

## *Financial leasing companies*

Law No 160, dated 27 December 1999, and Circular No 1 relating to Basic Decision No 7540 of 4 March 2000 established financial leasing companies as a category of institution and set the conditions for their establishment and operations. Only financial institutions registered with the BDL and Lebanese companies and/or branches of foreign companies whose main object is restricted to leasing are eligible to apply to the BDL for registration as financial leasing companies. Leasing activities include the leasing of equipment and machinery which has been purchased for the purpose of a specific lease, under which the lessee acquires a right (albeit qualified by other terms of the lease) to continuous use of the property and the right to acquire such property at a later date for a fixed price specified in the lease contract.

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

### **1.2.1 Historical background**

Before the First World War, Lebanon and Syria were part of the Ottoman Empire and the Turkish pound was the legal tender. Following the downfall of the Ottoman Empire in September 1918, the Turkish pound was replaced by a sterling-based Egyptian currency (issued by a private British institution) as legal tender in the states under the joint French and British mandate. Upon taking Lebanon and Syria under its separate mandate, the French government sought to replace the Egyptian currency and granted a commercial bank - the Banque de Syrie, a French affiliate of the Ottoman Bank - the authority to issue a currency for the states under its new mandate, namely the new Syrian currency.

As the political status of Lebanon evolved, the Banque de Syrie, which was to act as the official bank for Lebanon and Syria, was renamed the Banque de Syrie et du Liban (BSL). The BSL was granted the sole right to issue a French franc based Lebanese-Syrian currency in Lebanon and Syria for 15 years starting in January 1924. In 1937, two years before the expiry of the 15-year period, the BSL's mandate was extended for another 25 years to issue in Lebanon a Lebanese currency separate from the Syrian currency, both of which could be used interchangeably in either state. Although the currency was Lebanese in name, it remained French-franc-based until 1941, when it was linked to the pound sterling after the defeat of France and the invasion of Lebanon by the Allied forces. Following its independence in 1943, Lebanon concluded a monetary agreement with France in 1948 separating its national currency from the then unstable French franc. Lebanon sought to lebanise the BSL and a council known as the Council of Money and Credit was formed to draw up the Money and Credit Code and the by-laws of Lebanon's future central bank, BDL.

The BDL was established by the Money and Credit Code promulgated on 1 August 1963 by Decree No 13513. It started to operate on 1 April 1964 and has since had the exclusive right to issue the national currency. The BDL is a legal public entity enjoying financial and administrative autonomy (Article 13 of the Money and Credit Code) and is not subject to the administrative and management rules and controls applicable to the public sector. The role of the BDL as set out by the Money and Credit Code consists in: (1) issuing notes and coin; (2) safeguarding the national currency; (3) providing banking and settlement services; (4) monitoring and safeguarding the soundness of the banking system; (5) developing the money and financial markets; and (6) maintaining economic stability.

### **1.2.2 Role in relation to payment systems**

Any action taken by the BDL that gives rise to an entry in its accounts vis-à-vis the banking system is at the same time the completion of a payment and an act of monetary policy. Such operations include open market operations, repurchase transactions, swaps and traditional interbank operations. The central bank effects final settlement between accounts in its books for members of the clearing system and it acts as the government's banker in that it clears government receipts and disbursements. Banks and financial institutions also maintain book entry securities accounts with the BDL, through which Treasury bill transactions are settled. They must ensure that the balances on their accounts at the BDL are sufficient at the end of the day to allow transfer orders to be executed and to maintain reserve requirements. If necessary, banks may borrow from and lend to each other in order to acquire funds to cover daily transactions. In order to maintain the effectiveness of reserve requirements as a tool to

control liquidity, the BDL does not provide daylight or overnight credit to meet shortfalls in required reserves.

The role of the BDL was modified by Law No 133/99 of 26 October 1999, which extended its prerogatives, duties and responsibilities. This law makes the BDL responsible for the development and regulation of: (1) payment systems, especially ATM and payment card systems; (2) payment instruments, including electronic instruments; and (3) clearing and settlement operations related to payment and securities settlement systems. In carrying out its oversight role, the BDL's activities include issuing circulars, preparing draft laws to be presented to the parliament, organising workshops and following up projects (eg the SeBIL project described in Section 2.4) and imposing administrative sanctions when rules and time limits for the implementation of circulars are not respected.

The role of the central bank is thus a mixture of providing services such as the clearing and settlement of cheques and transfers through SWIFT, carrying out oversight responsibilities and encouraging private sector development in the field of payment and settlement systems through its contacts with the Association of Banks in Lebanon (ABL) and through the formal vehicle, COBIT.

### **1.2.3 COBIT**

With the formation of COBIT (established on 20 March 2001, Announcement No 634), the BDL expanded the scope of its activities in the area of technology and payment systems. COBIT is a forum for cooperation between the BDL, the banking sector and other private and public bodies. It is chaired by the First Vice-Governor of the BDL and its membership is drawn from the BDL and the BCC on the public sector side and from the ABL and certain individual Lebanese banks on the private sector side. COBIT reports to the Governor of the BDL, and hence to the Central Council of the BDL.

The main mandate of COBIT consists in:

- Setting out a comprehensive strategic plan for developing and modernising Lebanese payment and settlement systems, with a view to introducing and extending the use of advanced electronic techniques. The plan will cover: (1) the adoption of electronic means of payment; (2) the modernisation of techniques of using the SWIFT network in Lebanon; (3) the modernisation of banking operations and services, including advanced electronic services; and (4) recommendations for circulars and decisions to keep pace with developments in the fields of electronic banking and financial services.
- Obtaining information and keeping abreast of the most recent technical developments and expertise in all matters relating to modern banking and financial techniques and information technology in Lebanon and overseas, via interaction with specialised committees as well as with domestic and international institutions and organisations.
- Reviewing the project of direct links between the BDL and the banking and financial system for the purpose of establishing and developing an interbank communication network, including data and multimedia.
- Examining the means and instruments by which the banking sector may contribute to the development of IT services, activities and production.
- Contributing to the development and modernisation of automated and computerised procedures by banks, financial institutions and other entities controlled by the BDL.
- Designing training programmes for staff involved in implementing modern banking and financial techniques and IT solutions.

## **1.3 The role of other private and public sector bodies**

Other main relevant public and private sector bodies are the Higher Banking Commission (HBC), the Banking Control Commission (BCC), the Association of Banks in Lebanon (ABL), the National Deposit Guarantee Institution (NDGI) and Kafalat Corporation (KC).

### **1.3.1 The Higher Banking Commission**

The HBC was created at the BDL in 1967, pursuant to Law No 28/67. It performs the function of a banking court with authority to impose administrative penalties stipulated in the Money and Credit

Code on banks, financial institutions, financial intermediaries, money dealers, auditors and leasing companies that violate the provisions of their by-laws, those of the Money and Credit Code or the rules and regulations set by the central bank. The HBC is also empowered, among other things, to take over unsound banks.

### **1.3.2 The Banking Control Commission**

In May 1967, Law No 28/67 established the BCC as an independent body within the BDL, to supervise banks, financial institutions and the other types of institutions described in Section 1.1.2. The Commission works closely with the Governor of the BDL to ensure that banks and financial institutions are implementing monetary and financial regulations and thus to ensure the safety and soundness of the banking and financial sectors.

Under its by-laws, the BCC is entrusted with: (1) verifying and evaluating financial statements submitted by banks and financial institutions, monitoring the implementation by these institutions of the provisions of the Money and Credit Code and of the BDL's regulations, and imposing corrective reform measures when necessary; (2) controlling and supervising banking and financial sector operations (eg banks' solvency and liquidity ratios); and (3) ensuring that banks and financial sectors comply with other laws and regulations. It also gives advice and encouragement to banks, financial institutions, foreign exchange dealers, financial intermediaries, mutual funds and leasing companies on effective measures to improve their financial situation and management capabilities.

### **1.3.3 The relationship between the BCC, the HBC and the BDL**

The HBC, the BCC and the BDL's Central Council cooperate to ensure the stability and soundness of the financial and monetary sector, and there are important links between their respective governance structures. The Governor of the BDL chairs both the HBC and the Central Council. The by-laws of the BCC are subject to the approval of the HBC and the Central Council.

In addition to the regular reports which the BCC submits to the BDL's Governor, the Governor may ask the BCC to investigate further a specific bank's financial situation. Based on such reports, the Governor may decide to present the matter to the HBC, which could request additional information from the BCC when reviewing the case. The HBC's decisions are final and thus cannot be appealed against, except on grounds of abuse of the law.

### **1.3.4 The Association of Banks in Lebanon**

The ABL is a professional association created in 1959. It plays an important role in promoting cooperation amongst banks and as the representative body of the whole banking system. The ABL aims to develop and upgrade the standard of operations at Lebanese banks and at branches of foreign banks in Lebanon through coordination and the promotion of mutual understanding. The ABL: (1) assists its members in implementing the rules and regulations laid down by the BDL; (2) collects and makes available economic data, publications and statistics for research; (3) provides a centre for banking research and regular training for its members' staff and management, to broaden their knowledge and improve their productivity; and (4) sponsors international banking seminars for foreign and local bank managers and employees.

All banks registered with the BDL and all foreign bank branches or representative offices established under Lebanese law may become members of the general assembly of the ABL upon written request.

### **1.3.5 The National Deposit Guarantee Institution**

The NDGI was established by Law No 28/67 of 9 May 1967 as a cooperative joint stock company, with banks and the government each holding half of the capital. The main objective of the NDGI is to protect small depositors at failed banks up to the guarantee ceiling prescribed by Law 28/67. For purposes of compensation, a depositor's accounts at any one bank (head office and branches taken together) are consolidated and guaranteed, at present, up to a ceiling of LBP 5 million for the

aggregate. A separate, single beneficiary's entitlement applies to joint accounts and heirs' accounts. The guarantee covers residents' and non-residents' deposit accounts in all currencies<sup>4</sup> except for foreign currency deposits held at branches abroad, as prescribed by Law No 110 of 7 November 1991. The guaranteed ceiling applies to an aggregate of all currencies. Law 28/67 denies the privilege of guaranteed accounts to the bank's president, directors and auditors as well as to their spouses and relatives.

An annual premium is paid on total liabilities, excluding shareholders' equity capital, payment orders, accounts between resident banks and banks' account reconciliations. Under Decree No 29 of 1 April 1975, which established a free banking zone, banks do not pay a premium on non-residents' deposit accounts in foreign currencies held at banks' head offices in Lebanon, even though such deposits are guaranteed. Since 1996, and with the return of financial stability to the Lebanese banking sector, the rate of premium has been reduced from 0.15% to 0.05%.

### **1.3.6 Kafalat Corporation**

KC is a private corporation, owned by banks and by the NDGI and registered as a financial institution on the BDL's list on 8 October 1999. Its objective is to develop a guarantee scheme for banks' credits to small and medium-sized enterprises (SMEs). Subject to the prior approval of the BDL, a guarantee from KC benefits the lending bank in terms of a lower reserve requirement, as prescribed by Basic Decision No 7835 of 2 June 2001 (60% of the value of the loan in Lebanese pounds guaranteed by KC would be deductible from required reserves in Lebanese pounds). At the beginning of 2001, the government extended the support available through Kafalat to SMEs specialising in industry, agriculture, tourism and information technology. In the revised scheme, Kafalat bank loans of up to LBP 300 million are covered, as opposed to LBP 100 million under the original scheme. Guaranteed loans must have a maturity not exceeding seven years and the borrower must be a small business with no more than 40 employees. Kafalat underwrites 75% of the loan in case of default and charges a guarantee fee of 2.5%.

## **2. Payment media used by non-banks**

### **2.1 Dollarisation and currencies used for making payments**

The political instability of the war years greatly affected the Lebanese economy. The Lebanese pound depreciated vis-à-vis the US dollar and became highly volatile, which led to a shift in depositors' preference from the Lebanese pound to the US dollar, as reflected in the main indicators of dollarisation set out in Tables A and B.

Measures to counter dollarisation have included the issue since 1994 of banknotes with higher denominations and measures by the BDL to promote lending in the national currency. In 2001 the USD share of total lending had reached 86%. The BDL issued Basic Decision No 7835 on 2 June 2001, lowering commercial banks' reserve requirements in respect of 60% of the value of: (1) housing loans granted in Lebanese pounds under the protocol concluded between commercial banks and the Public Corporation for Housing; (2) housing loans in Lebanese pounds to military volunteers or to the council of military volunteers; (3) LBP loans to the Housing Bank; and (4) loans in Lebanese pounds guaranteed by KC and made by banks to SMEs. A ceiling, however, was set at 20% of reserve requirements (3% for loans to the Housing Bank), based on the bank's balance sheet as at 31 December of the previous year. Banks' reserve requirements were also lowered by 100% of the value of housing loans in Lebanese pound granted directly to the Public Corporation for Housing. The ceiling for this, however, was set at 3% of reserve requirements as in the case of loans to the Housing Bank.

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<sup>4</sup> Coverage for deposits in foreign currencies was introduced at the end of 1991 and was originally meant to last until the end of 1998.

Table A

**Main indicators of dollarisation**

	1996	1997	1998	1999	2000	2001
Share of USD deposits in total bank deposits (in %)	56	64	66	62	67	73
Share of USD credits in total bank credits (in %)	87	87	89	88	87	86
Share of USD cheques in total value of cheques cleared (in %)	74	75	75	73	70	69
Banks' vault cash (in millions of LBP)	233,161	267,712	279,624	368,604	409,685	371,058
<i>Of which:</i>						
<i>In LBP</i>	96,408	114,806	111,337	146,086	198,418	145,516
<i>In FX (evaluated in millions of LBP)</i>	136,753	152,906	168,287	222,518	211,267	225,542
Share of FX vault cash in total banks' vault cash (in %)	58.65	57.12	60.18	60.37	51.57	60.78

Table B

**Share of LBP and USD cheques in total cheques cleared  
in LBP and USD**

	1996	1997	1998	1999	2000	2001
Share of LBP cheques as a percentage of total volume	31	30	29	29	31	32
Share of LBP cheques as a percentage of total value	25	25	25	26	29	30
Average value of LBP cheques (in LBP millions)	3.07	3.15	3.43	3.31	3.49	3.38
Share of USD cheques as a percentage of total volume	69	70	71	71	69	68
Share of USD cheques as a percentage of total value	75	75	75	74	71	71
Average value of USD cheques (in LBP millions)	4.13	4.2	4.32	3.81	3.77	3.77

**2.2 Cash payments**

Cash is the most usual means of payment for everyday small-value transactions. Both the Lebanese pound and the US dollar are in common use.

The legal tender is the Lebanese pound. Banknotes are issued by the BDL in 14 denominations. The LBP 1, 5, 10, 25, 50 and 100 denominations were first issued in 1964, LBP 250 in 1978, LBP 500 and 1,000 in 1988, LBP 10,000 in 1993, and LBP 5,000, 20,000, 50,000 and 100,000 in 1994. Coins of LBP 100, 250 and 500 denominations were introduced in late 1995 and the LBP 50 coin in August 1997. As at December 2001, notes and coin in circulation outside the BDL (ie in the hands of the public and in banks' vaults) amounted to LBP 1,527 billion, of which LBP 1,382 billion are in public hands, representing about 60% of M1 throughout the period 1998-2001. This reflects the habit and preferences of individuals for holding idle cash in Lebanese pounds (Table 2). Nevertheless, this share has decreased compared to previous years, when it ranged between 62 and 67%.

Cash withdrawals in Lebanese pounds and US dollars can be made by means of cheques or at ATMs, as explained below.

## 2.3 Non-cash payments

Non-cash payments in Lebanon are made using a number of instruments (Tables 7 to 10). Credit transfers through the BDL (including both SWIFT and non-SWIFT transfers - see Section 3.2) account for the highest total values of payments made in the economy, but represent mainly payments between members of the banking and financial sectors. Cheques are the predominant instrument in use among non-banks, for both high- and low-value payments. If credit transfers through the BDL are excluded, cheques account for more than 90% of the total value of other payments. Cheques are issued both in Lebanese pounds and in foreign currencies. USD cheques account for almost 100% of foreign currency cheques, reflecting the importance of the US dollar in economic and financial transactions in Lebanon (Table C).

Table C  
Volume and value of foreign currency cheques cleared<sup>1</sup>

	1996	1997	1998	1999	2000	2001
Volume of DEM cheques cleared	18,177	21,229	21,603	20,119	21,303	13,376
Value of DEM cheques cleared	83	93	89	76	81	44
Volume of FRF cheques cleared	14,648	15,370	13,300	11,541	11,561	6,248
Value of FRF cheques cleared	102	102	106	82	77	41
Volume of ITL cheques cleared	3,503	4,260	4,059	3,438	2,928	1,861
Value of ITL cheques cleared	22	27	26	16	14	8
Volume of GBP cheques cleared	3,588	3,714	3,151	2,443	2,309	2,320
Value of GBP cheques cleared	35	39	31	32	29	30
Volume of USD cheques cleared	6,856,553	7,564,303	7,915,172	7,690,918	7,399,891	7,388,484
Value of USD cheques cleared	18,023	20,783	22,692	19,461	18,527	18,467
Volume of EUR cheques cleared	0	0	0	1,897	4,985	19,290
Value of EUR cheques cleared	0	0	0	42	85	199
<b>Total volume</b>	<b>6,896,469</b>	<b>7,608,876</b>	<b>7,957,285</b>	<b>7,730,356</b>	<b>7,442,977</b>	<b>7,431,579</b>
Share of non-USD cheques	0.58	0.59	0.53	0.51	0.58	0.58
<b>Total value</b>	<b>18,265</b>	<b>21,044</b>	<b>22,944</b>	<b>19,709</b>	<b>18,813</b>	<b>18,791</b>
Share of non-USD cheques	1.32	1.24	1.10	1.26	1.52	1.72

Note: Although the Deutsche mark, French franc and Italian lire were part of the euro for 1999-2001, however, cheques continued to be issued and cleared in the previous denominations until 2002.

<sup>1</sup> Value in millions of USD.

Other instruments used for making non-cash payments include payment orders, bills of exchange, standing orders (credit transfers), direct debits and payment cards.

### 2.3.1 Cheques

The legal framework for payments with cheques and traveller's cheques is provided by the Commercial Code promulgated in 1943 and by the agreement between the bank and the customer.

Cheques in use in Lebanon are denominated primarily in Lebanese pounds and US dollars, although GBP and EUR cheques are also cleared locally. LBP cheques tend to be used for smaller-value consumer purchases, whereas higher-value transactions, such as the purchase of capital and durable goods, are usually paid for using USD cheques.

LBP cheques accounted for 32% of the total volume of cheques cleared in Lebanese pounds and US dollars for 2001 (Table B) and for 30% of the total value. The average value of USD cheques has

declined since 1992 (from the equivalent of LBP 5.69 million per cheque in 1992 to the equivalent of LBP 3.77 million in 2001). The years 1997-98, however, were an exception to this longer-term trend, linked to a sharp rise in the proportion of deposits held in US dollars - from 56% of total deposits in 1996 to 66% in 1998. On the other hand, the average value of LBP cheques, although still lower than that of USD cheques, has increased since 1992, from LBP 1.3 million to LBP 3.38 million in 2001. It is worth noting that the average value of USD cheques was more than four times that of LBP cheques in 1992, when political disturbances prevailed and the value of the Lebanese pound was decreasing sharply against other currencies.

*Central Office for Bounced Cheques (Centrale des Chèques Impayés - CCI)*

In line with its responsibility for ensuring the soundness of the banking system, the central bank sought to reduce the number of dishonoured cheques by issuing Basic Decision No 6060 of 25 November 1995 to establish a "Centrale des Chèques Impayés" (CCI). The CCI is administered by the BDL and centralises all information relating to cheque payment incidents. Banks must consult the CCI before issuing chequebooks and must refrain from issuing them to any customer who is listed on the CCI blacklist. Banks are required to ask their customers to honour an unfunded cheque within 15 days of its presentation. If the customer does not provide cover within the specified period, the bank on which the cheque is drawn must request that the customer be listed by the CCI.

In order for a customer's name to be removed from the CCI blacklist two conditions must be satisfied:

- The situation must be regularised by the customer making the underlying payment. Once a bank is satisfied that this has been done, it informs the BDL.
- A specified time must have elapsed. The Basic Decision specifies periods of between six and 36 months, according to the number of times the customer has been listed - six months for a first-time listing, 18 months for the second and 36 months for the third time.

The CCI updates the blacklists on a monthly basis and sends copies of it to all banks. For the year 2001, the total value of returned cheques in Lebanese pounds and foreign currencies amounted to LBP 1,317 billion compared to LBP 1,466 billion in 2000, and the total number of returned cheques was 362,122 compared to 389,149 in 2000 (Table D).

Table D  
**Volume and value of returned cheques<sup>1</sup>**

	1998	1999	2000	2001
Volume of LBP cheques returned	65,558	68,644	73,434	76,514
Value of LBP cheques returned	251	215	225	260
Volume of FX cheques returned	319,962	325,786	315,715	285,608
Value of FX cheques returned	1,544	1,369	1,241	1,057
Total volume of cheques returned	385,520	394,430	389,149	362,122
Total value of cheques returned	1,795	1,584	1,466	1,317

<sup>1</sup> Value in billions of LBP

**2.3.2 Payment orders - Ministry of Finance**

Payment orders are special payment instruments issued by the Ministry of Finance on behalf of all the Lebanese ministries and in accordance with the National Budget. Every payment order exceeding LBP 1.3 million must be issued on the treasury account held at the BDL. During 2002, the BDL processed 97,555 payment orders with a total value of LBP 5,173 billion. Comparable figures for 2000 and 2001 are 90,406 and 92,148 payment orders respectively, with total values of LBP 3,748 billion and LBP 4,082 billion.

### **2.3.3 Bills of exchange**

The popularity of bills of exchange, particularly for commercial payments, is due to the widespread use of suppliers' credit in Lebanon (eg for the purchase of cars, furniture or home appliances). No statistical data are available on the number or value of bills of exchange issued in Lebanon.

### **2.3.4 Standing orders (credit transfers)**

Customers can give their banks standing orders to make regular payments to specific payees. The order can be executed by telephone, fax, telex, or following written instruction. Payments are executed on the date specified by the customer. Currently no statistical data are available on the number of credit transfers in Lebanon.

### **2.3.5 Direct debit**

Direct debits are also used for recurring payments (eg electricity, telephone, subscription and tax bills), simplifying the payee's task of collection. Subject to prior agreement between the debtor (payer) and creditor (payee), a direct debit is made out by the payee and presented to his/her bank for collection from the payer's bank. The payee is responsible for submitting his/her claim on time as specified in the prior agreement. There are no agreed rules applying to every bank for conducting such operations and banks use their own message formats in the collection process. Currently no statistical data are available on the number of direct debits in Lebanon.

### **2.3.6 Payment cards**

There are two main types of payment cards used in Lebanon, international and local cards, both of which can be issued by banks and non-banks. In practice, the issuers are mainly banks and credit card companies. Large retailers and other businesses also issue payment cards (proprietary cards) but with restricted purposes. Payment cards are used with a personal identification number (PIN) to identify the cardholder's entitlement to services. The particular range of services provided depends on the contract between the issuer and the cardholder, but the majority of cards used in Lebanon provide three services - cash access, debit and credit card payment services.

Most card issuers charge administrative costs and annual fees. Annual fees vary according to the services provided (international or national payments, immediate or deferred debit, or cash withdrawals only). The number of payment cards totalled 407,858 in December 2001 (404,094 held by residents and 3,764 by non-residents) compared with 97,862 in December 1997. The number of contracts signed between merchant acquirers and merchants totalled 23,853 in December 2001 and the number of electronic and manual point of sale terminals totalled 25,840. The value of transactions carried out with payment cards amounted to USD 384 million in 2001 against USD 285 million in 1997 and USD 163 million in 1996. Domestic payments by residents in Lebanese pounds accounted for 9% of total card payments in all currencies in 2001, and domestic cash withdrawals (using ATMs or at bank counters) in Lebanese pounds for 55% of total cash withdrawals.

These figures indicate that the number and use of payment cards is rapidly expanding in Lebanon but is still small compared with cheque payments. Card issuers and merchant acquirers are very selective in admitting new cardholders and in signing up merchants respectively. In addition, the use of cards needs a well designed network and settlement system that operates within specified laws and regulations. In this context, Basic Decision No 7548 issued by the BDL (described in Section 1.1.1) constitutes the first step in this direction. It obliges banks, financial institutions and other relevant supervised institutions to notify the BDL before using electronic means to perform any previously approved activities.

### **Types of cards**

#### *Credit cards*

Credit cards are used as a means of payment and as a form of credit. A different range of services is offered by different card-issuing institutions. The cardholder holds an account with the card-issuing bank or with another bank, from which sums owing are deducted by direct debit.

### *Debit cards*

Debit cards enable cardholders to make payments which are debited to their bank accounts. Unlike a credit card customer, the holder of a debit card must hold an account at the issuing bank.

### *Charge cards*

Holders of charge cards must settle the total of their bill at the end of each month.

### *Proprietary cards*

Some large retailers and other businesses that do not provide financial or banking services issue proprietary cards to customers. These restricted purpose cards are not subject to the BDL's rules and decisions.

### **Automated teller machines (ATMs)**

The first ATM was installed in Lebanon in 1994. Since then, the number of ATMs has grown, as competition has increased in offering new services to customers at convenient times and locations. ATM services can be provided either in the national currency or in US dollars. The ATMs permit customers who have an access card (a credit, debit or cash card) and a PIN to withdraw cash either from their accounts or against a line of credit.

ATMs are subject to the following requirements, to which a grace period (ended 30 September 2002) applied:

- They should accept all types of cards authorised and listed by the BDL, whether issued domestically or internationally, and their respective networks should have connections with all other networks used for card transactions in Lebanon.
- Companies owning ATM networks should inform the BDL of the name of the owners and the number of participants on the network. The companies must also respect the Banking Secrecy Law.
- Clearing and settlement should be performed domestically - ie without passing through international networks.
- The use of all cards issued should be subject to the agreed arbitration procedure to settle any disputes.

ATMs can be located either inside the premises of a bank or bank-owned company or elsewhere, for example in universities, hospitals or big retail outlets. The BDL must be notified before an ATM is installed. Installation by companies which are neither banks nor owned by banks requires sponsorship by a bank under a contract which defines the parties' respective responsibilities. Each bank is subject to a quota, whereby the total number of ATMs installed outside its premises, whether by it or by companies it owns or sponsors, should not exceed the number of its branches in addition to its head office.

The number of ATMs totalled 571 as at December 2001 compared with 183 machines as at December 1997. They were geographically distributed as follows:

Beirut and its suburbs: 335;

- Mount Lebanon: 98;
- North Lebanon: 50;
- South Lebanon: 52;
- Bekaa: 36.

ATMs now operate only online. They are directly connected to the (interconnected) operating networks in Lebanon and to the banks' communication system. The network operator and accounting department verify the PIN and other details centrally. Online operation reduces credit card fraud. Until end-2002, some ATMs operated offline, but this has now been phased out in accordance with Basic Decision No 7299 of 10 June 1999.

The value of cash withdrawal transactions (including both ATM withdrawals and withdrawals at bank counters) totalled USD 737 million in 2001 compared with USD 198 million in 1997.

## **2.4 Recent developments**

Adopting a modern payment system in conformity with international standards requires a review of the current system in all its strong and weak aspects and may require amendments to existing laws relating directly or indirectly to payment media. In this regard, the BDL, through COBIT, has taken the following steps:

- The standardisation of payment cards for use in ATMs and new requirements on their clearing and settlement, as described in Sections 1.1.1 and 2.3.6 (amended Basic Decision No 7299 dated 10 June 1999).
- Proposals for legislation on electronic signature, electronic payment media and the dematerialisation of traded instruments.
- The necessary measures to launch the SeBIL project by means of regular meetings and workshops drawing on international expertise. The project aims to: (i) construct one database for the BDL and the banking and financial sectors to extract all statistics and reports electronically; and to (ii) connect the network of the banking and financial sectors to that of the BDL, so that transactions could be executed online.
- The test application of SeBIL in the near future will take the form of online access to information between the BDL and banks on customers with unfunded cheques (see Section 2.3.1).
- The expansion of the use of the SWIFT system so that SWIFT members can receive messages about the balances on their accounts at the BDL and account statements and can use a predetermined SWIFT code to subscribe for Treasury bills. The expanded use of SWIFT will facilitate adoption of an RTGS system.

## **3. Interbank exchange and settlement systems**

### **3.1 General overview**

Payment transactions are settled primarily by the BDL over the accounts kept with it by members of the banking and financial sectors. The BDL is the country's major payment system operator, executing payment orders directly over its books and processing nearly all interbank clearing.

The value of credit transfers through the BDL amounted to USD 201.5 billion in December 2001, compared with USD 26.5 billion of cheques cleared. By contrast, the number of credit transfers in the same period was 248,454, compared with 10.9 million cheques. Credit transfers represent 88% by value and 1.8% by volume of all non-cash payments in the economy (Tables 7 to 10).

With the rapid devaluation of the Lebanese pound against the US dollar during the years of economic and political instability, the public shifted its holdings to US dollars and used USD cheques extensively in its daily transactions. Deposits in foreign currencies expanded significantly between 1992 and 1997 (from an equivalent of LBP 7,476 billion to an equivalent of LBP 19,855 billion - a rise of 168%). This expansion created an urgent need for USD cheque clearing services in Lebanon. Clearing services were first provided by a Lebanese commercial bank, the Banque Libano-Française, in 1988, and then by a Lebanese financial institution called the Société Financière du Liban (SFL) in 1989. The BDL was then encouraged to provide clearing services in US dollars and other foreign currencies and, therefore, issued Basic Decision No 5258 of 17 September 1993 allowing banks, financial institutions and other institutions eligible to hold accounts with the BDL under Lebanese law to open deposit accounts in foreign currencies with it. This measure was followed by the establishment of clearing services at the BDL, in January 1994, for cheques issued in foreign currencies.

### **3.2 Credit transfers through the BDL**

The BDL issued Basic Decision No 6367 of 9 November 1996 and Basic Decision No 7548 of 30 March 2000 as the basis for a credit transfer service for account holders at the BDL as well as for all other electronic payments and transfers.

Credit transfers can be made by BDL account holders from their accounts either to any other account held with the BDL in the same currency or to their own foreign currency accounts held with other institutions abroad. Cross-border transfers through the BDL may not be made to accounts in other names. The BDL effects cross-border transfers using its correspondent accounts abroad.

Payment instructions for local and cross-border credit transfers, in the domestic currency and in foreign currencies, are mostly transmitted to the BDL through SWIFT. By the end of 2001, 52 banks and one financial institution operating in Lebanon had become members of SWIFT. Their payment instructions use SWIFT message standards. Banks and financial institutions which are not members of SWIFT transmit their payment instructions to the BDL by written request, using the same SWIFT message format. Both members and non-members of SWIFT are advised by the BDL by means of receipt vouchers.

Credit transfers through the BDL using SWIFT amounted to a total value of USD 189.6 billion in 2001 and numbered 2.4 million (Tables 7 and 8). Total SWIFT message traffic (outgoing and incoming) has been continuously increasing, with volumes reaching 3.7 million in 2001 - an increase of 89% since 1997. Customer funds transfers and checks (category I) constituted 33% of total messages sent in 2001, and financial institutions' transfers, including banks' funds transfers (category II), 28% (Tables 12 and 13).

A remote access point (RAP) is installed on the BDL's premises to establish a telecommunication link with SWIFT in the United Kingdom. The BDL and many other banks are connected to the RAP, thereby benefiting from lower message transmission charges, since the international lines are replaced by national ones, and from local service support provided by the BDL staff. Service support is charged yearly to users connected to the SWIFT network.

In June 1998, the Swift Automated Messages Application (SAMA), developed by the IT Department at the BDL for the Current Operations Department, went into operation. The main purpose of this project was to automate data entry for SWIFT messages and to integrate it into the new accounting system. This procedure helped in reducing data entry errors and in improving system performance. The procedure processes message types 200, 201, 202 and 203 in Lebanese pounds and in foreign currencies.

#### *Settlement procedures*

Instructions for domestic transfers in Lebanese pounds and in foreign currencies between accounts held with the BDL are executed through the BDL's Current Operations Department. The transfers are processed on a gross basis, mainly in batches during the day, with final settlement at the end of the day. Instructions for same day value should be received by the Transfers Division of the Current Operations Department before 14:00 on the value date (10:00 on Fridays and Saturdays). Saturday is a business day in this context. The value date of transfers cannot be backdated. In the event of failure to meet the deadlines, instructions for value that day are cancelled immediately. Instructions are executed provided that both payer's and payee's accounts are in the same currency and that there are sufficient funds on the payer's account. If there are not sufficient funds, the instruction will not be executed and the BDL notifies the payer, who either cancels or covers the instruction. The BDL does not charge commission on transfers of funds between BDL accounts in the same currency. Prior to Basic Decision No 7613 dated 30 June 2000, this exemption applied only to transfers between accounts held at the same BDL branch.

The future intention of the Current Operations Department is to develop a secure and reliable RTGS system. To this end, the BDL has taken many actions during the last five years and issued related circulars to banks and financial institutions. A specialised international company conducted a feasibility study for an electronic link between the BDL and the banking and financial sectors. During July 2002,

the BDL approved the final road map for SeBIL, which will be launched by the end of 2003. SeBIL will provide the infrastructure for an RTGS system, which will be developed to be compliant with the Core Principles for Systemically Important Payment Systems.<sup>5</sup>

Cross-border payments in foreign currencies are processed through the Foreign Exchange and International Operations Department at the BDL. Transfers in (ie from the BDL's correspondent abroad to an account held with the BDL) are only executed upon receiving a credit confirmation notice from the BDL's correspondent abroad. Transfers out (ie from an account held with the BDL domestically to the BDL's correspondent abroad) may be made only by banks, financial institutions or public entities. A debit authorisation should be sent before:

- (a) 15:00 on the value date for USD transfers; and
- (b) 24 hours before the value date requested in other foreign currency transfers.

### 3.3 Cheque clearing and settlement

Cheques in Lebanese pounds and in foreign currencies (US dollars, pounds sterling and euros) are cleared through a single system, the BDL clearing houses. These are established at the BDL's head office in Beirut and at six of its nine branches, namely in Jounieh, Tripoli, Zahlé, Saida, Tyre and Nabatyeh. All banks on which cheques are drawn (foreign and domestic banks and the BDL itself) are obliged by Basic Decisions Nos 6911 dated 26 February 1998 and 7656 dated 8 September 2000 to participate in the clearing houses and to hold an account with the BDL. The costs of operating the clearing houses are variable and are covered by the participating banks.

Cheques are cleared and settled in the following manner:

- (a) At bank level:
  - At the end of every working day, each bank tallies all the cheques presented and drawn on other banks.
  - The cheques are passed through the reader/sorter and currency codes and amounts are recorded (postmarking).
  - Cheques are classified and sorted by currency and by drawee bank.
  - The bank prepares a checklist for each other bank specifying the value and number of cheques drawn on that bank, with the corresponding cheques attached to it.
  - Another checklist, the control table, is prepared with eight items, the first three of which are the value of cheques to be collected during the clearing session as credit, that of cheques to be paid as debit, and the preliminary net credit/debit position. This control table is completed during the second session with the value of the cheques returned to the other banks as credit, the value of the returned cheques received from the other banks as debit, the total credits, the total debits and the final net credit/debit position. Banks' representatives calculate the preliminary and the final net credit/debit positions and confirm them to the Clearing House Officer (Box 1).
  - All the information describing the cheques to be collected from each bank is copied onto a diskette and printed out in the form of a statement.
- (b) First and preliminary session:
  - The next day the banks' representatives meet at one of the clearing houses.
  - The staff of the clearing house receive the diskettes with the attached statement from the representatives, read and copy the information, and book the transactions to the respective banks.

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<sup>5</sup> See Committee on Payment and Settlement Systems, *Core principles for systemically important payment systems*, January 2001. Available on the BIS website ([www.bis.org](http://www.bis.org)).

- During this session, the representatives exchange the cheques and the corresponding checklists they have prepared the day before showing the value of the cheques drawn on each of their banks.
- After receiving the aforementioned checklist, every representative calculates the value of the cheques drawn on his/her bank and checks them against that list.
- The staff of the clearing house hand over a statement for every bank showing its debit position, credit position and net debit/credit position.
- Every position is checked by the representatives to ascertain whether or not it confirms the value calculated in the checklists and to make adjustments for any mistakes.
- Members' net balances are kept and saved in the system until the second and final session.
- Each representative presents the cheques drawn on his/her bank to his/her bank for confirmation before funds are withdrawn from customers' accounts. If a cheque is dishonoured for any reason, it will be returned to the sending bank during the second and final session on the next day.

Box 1				
Cheque clearing - control table				
Beirut Clearing House				
<b>Bank no:</b>				
<b>Bank name:</b>				
<b>Date:</b>				
<b>Credits</b>			<b>Debits</b>	
<b>Returned cheques to banks</b>	<b>Presented cheques to banks</b>		<b>Received cheques from banks</b>	<b>Returned cheques from banks</b>
(3) out of (2) final session	(1) preliminary session	<b>Preliminary total</b>	(2) preliminary session	(4) out of (1) final session
		<b>Preliminary balance</b> (5) (1)-(2) preliminary session		
	<b>A</b> (1)+(3)	<b>Totals returned included</b> (6) final session	<b>B</b> (2)+(4)	
		<b>Final balance</b> (7) A-B final session		
We confirm the preliminary total and balance Beirut on ..... (date of first session)		We confirm that all the exchanged cheques were honoured on ..... except the returned cheques as mentioned above Beirut on ..... (date of second session)		
<b>Bank stamp and signature</b>		<b>Bank stamp and signature</b>		

(c) Second and final session:

- During this session, only returned cheques are exchanged between banks' representatives following the same procedure as in the first session.
- The account of the sending bank will be debited and that of the bank that refused the cheque will be credited with the amount of the cheque. The BDL records only the net debit/credit position for each bank, and obligations are settled via the accounts held at the BDL.

After the second and final session, account entries and settlement become final and irrevocable. On the assumption that no returned cheques will be exchanged during the second and final session, banks already know their net credit position during the preliminary session, but the value date will be that of the final session. Only then are clearing house balances settled over accounts at the BDL.

According to the clearing house rules, banks in a net debit position must supply their accounts at the BDL with sufficient funds by the end of the final session, when the debit position is due to be posted. This deadline can be extended until 15:00 (13:00 on Fridays and Saturdays) for all currencies if required, but, if funding were not complete by then, positions would be unwound to the extent necessary to enable settlement to take place. To date, there has been no case of such an unwinding.

A timetable of clearing house sessions and operations is set out in Box 2.

Box 2				
Timetable of clearing house sessions				
Mon-Thurs Fri-Sat	11:00-11:45 09:30-10:15	11:45-12:30 10:15-11:00	12:30-13:30 11:00-12:00	13:30-14:00 12:00-12:30
LBP	Doors open at BCH Arrival of banks' representatives Opening LBP session Delivery of diskettes and printed statements Exchange of returned cheques Exchange of new cheques	Treatment of information: – returned cheques (second and final session) – new cheques (first and preliminary session) Adjustments of returned cheques and closing of second and final session Confirmation of final net positions Statement - final Confirmation of preliminary net positions Statement - preliminary (new preliminary session) End of the session		
USD	Arrival of representatives Delivery of diskettes and printed statements		Opening USD session Exchange of returned cheques Exchange of new cheques Treatment of information: – returned cheques (second and final session) – new cheques (first and preliminary session) Adjustments of returned cheques and closing of second and final session	

Box 2 (cont)				
<b>Timetable of clearing house sessions</b>				
<b>Mon-Thurs Fri-Sat</b>	<b>11:00-11:45 09:30-10:15</b>	<b>11:45-12:30 10:15-11:00</b>	<b>12:30-13:30 11:00-12:00</b>	<b>13:30-14:00 12:00-12:30</b>
USD (cont)			Confirmation of final net positions Statement - final Confirmation of preliminary net positions Statement - preliminary (new preliminary session) End of the session	
European currencies (EUR and GBP)	Arrival of representatives Delivery of diskettes and printed statements			Opening (EUR and GBP) session Exchange of returned cheques Exchange of new cheques Treatment of information: – returned cheques (second and final session) – new cheques (first and preliminary session) Adjustments of returned cheques and closing of second and final session Confirmation of final net positions Statement - final Confirmation of preliminary net positions Statement - preliminary (new preliminary session) End of the session Departure of representatives Doors close at BCH
<p>Note: First session = preliminary session = first meeting where representatives exchange cheques presented for the first time. Second session = final session = next meeting where representatives exchange returned cheques received during the first session. Second session for Lebanese pounds is held the next working day. Second session for other currencies is held after two working days. Every session begins with the treatment of returned cheques received during the first session (justify the preliminary positions) to arrive at final positions, then continues with the treatment of the exchange of the new set of presented cheques (closing the opened session then opening a new session). During the first working day of every year only the first session takes place (no returned cheques), while during the last working day only the second session takes place (no new presented cheques).</p>				

### 3.4 Other international payments

International credit transfers not executed through the BDL are transacted primarily through correspondent banking relationships. The principal means by which payment instructions are transmitted internationally is SWIFT, and in the case of banks with a foreign presence, through their proprietary networks.

Retail cross-border payments are effected in all currencies using payment cards and traveller's cheques as well as credit transfers. International payments using credit or debit cards are cleared via the respective card-issuing companies or banks.

## 4. Securities settlement systems

### 4.1 Trading

#### 4.1.1 The debt market

The Lebanese debt market comprises: (1) Lebanese Treasury bills in Lebanese pounds; (2) Lebanese Treasury bonds in foreign currencies (eurobonds); and (3) subordinated notes, convertible bonds, domestic certificates of deposit (CDs) and euro CDs issued by the private sector. The size of these individual markets is shown in Table E.

Table E

#### Value of public and private sector debt instruments outstanding

	1996	1997	1998	1999	2000	2001
<b>Public sector:</b>						
Lebanese Treasury bills (in LBP billions)	17,053.6	19,379.7	21,109.3	24,279.9	25,731.4	26,483.6
Lebanese Treasury bonds (in USD millions)	800.0	1,044.5	2,498.9	3,680.6	5,058.9	7,629.9
BDL CDs (in LBP billions)	24.0	22.0	234.0	483.0	353.8	51.0
<b>Private sector (in USD millions):</b>	<b>702.8</b>	<b>1,468.4</b>	<b>1,665.2</b>	<b>1,744.9</b>	<b>1,916.1</b>	<b>1,572.9</b>
Eurobonds	295.0	295.0	295.0	270.0	235.0	135.0
Subordinated notes	5.0	155.0	155.0	155.0	155.0	155.0
Senior/junior notes	35.3	126.8	374.0	431.0	516.9	89.5
Convertible bonds	20.0	20.0	20.0	20.0	20.0	20.0
Euro CDs	200.0	675.0	708.0	793.0	930.0	1,100.0
Domestic CDs	147.5	196.6	113.2	75.9	59.2	73.4

#### *Lebanese Treasury bills in Lebanese pounds*

Lebanese Treasury bills denominated in Lebanese pounds are short-term negotiable instruments (three-month, six-month, one-year and two-year maturities) auctioned weekly by the BDL. The Ministry of Finance is the borrower on behalf of the government and the BDL acts as the agent. The borrowing programme was first launched in 1949 with the Banque de Syrie et du Liban and then continued with the BDL from 1967. Lebanese Treasury bills have always been an important macroeconomic tool for controlling the money supply and absorbing excess liquidity. They are considered risk-free assets and are given a zero risk weight in the calculation of capital adequacy ratios.

The three-month bills started to be traded by auction in May 1993, followed by the six-month bills in June 1993, the one-year bills in September 1993 and the two-year bills in November 1994. The minimum bid is LBP 10,000. Bids are quoted as a discount yield for the three-month, six-month and one-year bills and as a semiannual coupon for the two-year bills.

The Lebanese Treasury bill market is open to domestic and foreign investors. All Treasury bill categories are offered to so-called competitive and non-competitive bidders with no restrictions on trading or transfer of ownership. Competitive bidders are resident licensed banks and financial institutions and public sector entities that are allowed to bid according to their by-laws and regulations. They bid for bills within a predetermined ceiling, specifying what quantities they are willing to buy and at what rates. Non-competitive bidders include individual investors and non-resident institutions, which can buy and sell without any limit through their agents at the weighted average rate of the competitive issue. The BDL issues an auction form (covering the number of bills, offer category, auction date, value date, face value and ceiling) for subscription to competitive bidders every Friday and those bidders submit their bids in sealed envelopes by 10:00 on the Saturday for the three- and six-month

bills and by 11:00 on the following Monday for the one- and two-year bills. The results of the auction are announced at 12:00 on Saturdays and 13:00 on Mondays together with the weighted average bid rate, the discount and yield rates, the highest accepted bid price and the percentage of bids taken.

Settlement is effected on the Thursday following the date of the subscription (ie T+5 for the three- and six-month bills, and T+3 for the one- and two-year bills) by a transfer from the relevant parties' current account at the BDL. A voucher describing the subscribed amount is generated and sent to banks or institutions. Custody of Treasury bills is with the BDL and transfer of ownership is carried out by book entry. A statement of account and a portfolio report are prepared monthly for all subscribers. Treasury bills are redeemed on Thursdays.

In addition to the primary market, a secondary market exists for Treasury bill trading. Secondary market activity is limited, because most local banks adopt a buy-and-hold strategy and because of the frequency of the auctions. Settlement is agreed between counterparties and may be T+1, but it is common practice to settle on the Thursday following the trade. All holdings resulting from trading in the primary or secondary market are registered in dematerialised form on a segregated basis with the BDL in the name of the ultimate holder and in a nominee account of the local intermediary.

In addition to the Treasury bills described above, there is also a category of "special Treasury bills". These carry a fixed interest rate of 6% and can be held only by commercial banks in the context of the legal reserve requirement (LRR). To meet the LRR, commercial banks must deposit in cash with the BDL 15% of their long-term LBP liabilities, 25% of their sight LBP liabilities subject to LRR and 15% of foreign currency liabilities. These deposits are known as required placements. Up to 3% of the LRR in Lebanese pounds may be invested in special Treasury bills. Forms for subscription in special Treasury bills are submitted on Wednesdays, and settlement is on Thursdays. The application of the LRR to foreign currency liabilities was introduced for commercial and medium- and long-term banks relatively recently under Basic Decision No 7935 dated 27 September 2001.

#### *Eurobonds*

Eurobonds are issued by both the public and the private sector. These issues started in 1994 with the first USD 400 million global issue by the Lebanese government, which matured in October 1997. Several public and private sector issues followed, with maturities ranging from three to 15 years. The issues were listed on international stock exchanges, such as those of Luxembourg and London.

The issuance of bonds by banks and financial institutions requires the prior approval of the Central Council of the BDL, which may authorise such issuance up to six times an institution's Tier 1 capital, on condition that the capital of an issuing bank is at least LBP 10 billion, and that of a financial institution at least LBP 5 billion. The maturity of the issue must not be less than one year, and the amount maturing within one year should not exceed twice the Tier 1 capital. The issuer should not discount or purchase its outstanding bonds before one year from the issuance date.

#### *Subordinated notes, convertible bonds, domestic certificates of deposit (CDs) and euro CDs*

Subordinated notes are another form of fixed income securities. They are debt obligations of not less than five years maturity, issued by banks in Lebanese pounds or any other currency. In the event of the issuer's liquidation, they would be redeemed before any distribution to shareholders but only after all depositors and creditors were fully reimbursed. Redemption of subordinated notes under other circumstances prior to their maturity date requires the approval of the Central Council of the BDL. The value of the notes may be included in the Tier 2 capital of the issuer provided that it does not exceed 50% of the value of Tier 1 capital and subject to the approval of the Central Council of the BDL and the BCC.

Convertible bonds give the holder the right to exchange (convert) the bonds to another security, usually common stock of the same corporation. Once converted, the bond is retired. As at the end of 2001, only one Lebanese corporation had issued this type of bonds.

The BDL first issued CDs in 1994 in order to introduce an LBP money market instrument. Currently, the BDL issues four maturities of LBP CDs: 45 days, 60 days, 182 days and one year. CD rates are set on Tuesdays. Application forms for subscription by banks and financial institutions are issued on Wednesdays, responses are received on Thursdays and settlement is effected on Fridays through book entry transfers on the relevant parties' accounts at the BDL.

All banks operating in Lebanon are also allowed to accept time deposits against the issuance of CDs, subject to notification of the BDL not less than 15 days before the issuance date, in written form, of the total amount of the issue, its terms and conditions, and any arrangements for renewal. The total amount of outstanding CDs should not exceed, on the date of a new issue, six times the amount of the Tier 1 capital of an issuing Lebanese bank or six times the net allocated funds of a Lebanese branch of a foreign bank. CDs can be issued with fixed or floating interest rates, in bearer or registered form, or to the order of a specified party, and denominated in Lebanese pounds or any other currency. However, the prior approval of the BDL is required in the case of issues in bearer form. The minimum amount of a CD is LBP 100 million (or USD 50,000 or its equivalent in any other currency at the time of issue). Medium- and long-term banks can issue CDs with maturities ranging between six months and 10 years. Commercial banks may issue CDs with maturities ranging between three months and five years only.

#### **4.1.2 The money market**

Banks and financial institutions are the main participants in the money market. The money market includes repurchase agreements (repos), so-called maturity swaps and CDs. Such short-term instruments help banks to manage their liquidity position and provide the BDL with market-based instruments for monetary control.

Repos consist in the sale of Treasury bills by banks and financial institutions, with an agreement to repurchase at a specified future date. The maturity for repo transactions is 14 days subject to renewal. Buyers seek liquid short-term investments while sellers obtain use of cash. Funds obtained are secured through the pledging of some of the seller's own investment securities as collateral.

Maturity swaps were first conducted by the BDL in 1993, when it started to purchase short-term bills from banks and financial institutions at attractive discount rates and then sold them back to banks and financial institutions at the same purchase value but for a longer maturity. Maturity swaps are announced by the BDL when needed. They allow banks to restructure the maturity of their portfolios.

CDs are issued both by the BDL and by commercial banks and medium- and long-term banks as described in Section 4.1.1.

#### **4.1.3 The equity market**

##### *Beirut Stock Exchange (BSE)*

Equity trading in Lebanon takes place mainly on the BSE. The main securities traded are issued by the Lebanese real estate company, Solidere (whose main purpose is the reconstruction of Beirut city centre), banks, financial institutions and other private companies.

The BSE was originally established just after the First World War, with the start of the French mandate, in accordance with Ruling No 509 of 3 July 1920. In the early years, stock exchange operations were restricted to gold and currency transactions. These operations flourished with the establishment of mixed Lebanese-French joint stock companies in the 1930s, most of which operated public utilities (such as electricity, water, tramways and the harbour) and were simultaneously listed on the Paris and Beirut stock exchanges. Trading on the BSE prospered during the 1950s and 1960s. However, with the outbreak of war in 1975, trading slowed down. In 1983 the Stock Exchange Commission decided to suspend trading as economic activity was seriously disrupted.

On 22 September 1995, the BSE was officially reopened and on 22 January 1996 it resumed operations after a 13-year shutdown and more than a year of preparation and updating. The BSE comprises three markets: an official market for blue-chip companies with minimum capital of USD 3 million; a junior market for new companies with minimum capital of USD 1 million seeking to finance rapid growth and new projects; and a high-risk unlisted securities/over-the-counter market. On the first trading day, three companies previously listed on the BSE were quoted. More companies joined the BSE in due course, including a number of Lebanese banks wishing to list their shares. There are currently 13 companies listed on the BSE, with a market capitalisation of USD 1.395 billion as at 31 December 2002.

Law No 308 dated 3 April 2001 sets the current terms and conditions for the issuance of Lebanese banks' shares and bonds. It stipulates that the issue of such shares requires prior authorisation from the BDL and that all of a bank's common stock must be of a single category subject to the same terms. Banks' shares must be placed in dematerialised form in the custody of Midclear, whose share registry records are recognised by law and valid in Lebanese courts.

Prior authorisation by the Central Council of the BDL is necessary for any purchase of a bank's common stock which would result in a single shareholder holding more than 5% of the bank's total common stock or total voting rights, whichever is higher. The participation of close family members is considered as part of the above-mentioned 5% limit. Furthermore, the Central Council's approval is mandatory in the case of a transfer of shares to or from a member of the Board of Directors.

Trading on the BSE is limited to brokerage firms and specialised banks licensed by the BDL and the BSE. Before placing an order on the BSE, it is necessary to open a securities account with a brokerage house. The trading session occurs between 10:00 and 12:00. The brokers deliver the tickets of orders that have been partially or totally executed to the stock exchange and the BSE prints out detailed reports of the trading operations executed during the day.

Brokerage houses and specialised banks may also undertake block trades (direct transactions) with each other outside the BSE with minimum quantities determined by the BSE for each instrument, but all these trades must be reported to the exchange in a consolidated form for every brokerage house, including details of payment and delivery conditions. The BSE notifies the brokerage house once the order is executed, and the brokerage house in turn relays this information to its customer.

Trading is now continuous during the trading session and is computerised. It was previously based on a price fixing procedure that took place once a day for all stocks except for those of Solidere, which were priced twice daily. As an interim measure, the BSE Commission adopted a mixed "Continuous Trading and Price Fixing System" on 17 October 2000. Under this system, the BSE began each day with a price fixing, followed by two hours of continuous trading. As a further step, the BSE Commission moved to full adoption of a "Continuous Pricing System" on 23 June 2001, under which the daily closing price is calculated as the weighted average of the prices of the last five trades of that trading day. The new system would enable investors to place orders at any time during working hours. These start with a pre-opening phase that leads to an opening auction, followed by a continuous trading session. In June 1999, the BSE Commission signed an agreement with Paris Bourse SA whereby the latter would provide a new computer software (NSC-UNIX) system that would allow for continuous electronic trading. The installation of the NSC-UNIX system is still in progress at the time of writing.

#### *Over-the-counter (OTC) market*

All security types may be traded on the OTC market, provided they are not listed at the BSE.

In particular, the OTC market trades global depository receipts (GDRs) from Lebanese issuers which are not traded on the BSE. GDRs are also traded on the Luxembourg Stock Exchange. Total GDR issues as at 31 December 2002 amounted to USD 194.7 million.

## **4.2 Clearing**

The clearing and settlement of financial instruments in Lebanon is carried out through Midclear - the Custodian and Clearing Centre of Financial Instruments for Lebanon and the Middle East - which is also the central depository for Lebanon by virtue of Law No 139 dated October 1999. Midclear also became the central registrar for banks' shares in April 2001, when these were dematerialised by virtue of Law No 308 dated April 2001.

The majority of Midclear's shares are held by the BDL (99%). It was established in June 1994 as a Lebanese joint stock company governed by the provisions of the Commercial Code and other regulations in force in Lebanon. Each shareholder is held liable for the company's debts only up to its capital contribution.

The main functions of Midclear include:

- safekeeping of securities for members;
- immobilisation of physical securities;

- book entry clearing and settlement of transactions in a secure and cost-effective environment; for both local securities and securities listed in the euromarket (through Clearstream and Euroclear), debt and equity;
- accurate, timely and cost-effective processing of corporate actions including collection, distribution and accounting of dividend and interest payments;
- maintenance of shareholder registers.

The services it offers comprise:

- provision of assistance to issuers and lead managers in preparing new issues for clearing;
- allocation of securities codes, admission to Midclear books and custody of issues;
- closing in compliance with international regulations, and coordination of closing procedures with national and international central depositories to allow placement on the international markets directly from Lebanon;
- centralised administration of custody of whole issues in book entry form;
- clearing and settlement of secondary domestic and international market transactions on a delivery versus payment (DVP) basis;
- payment of coupons or redemptions as these fall due;
- registration of global certificates for global bonds and shares.

Local banks, brokers and other financial institutions are eligible to become members of Midclear, subject to approval by its board of directors, provided they are licensed by the BDL, have opened a clearing account with the BDL and have read and accepted Midclear's rules and instructions. Foreign banks and financial institutions are also eligible to become members of Midclear provided they have opened a clearing subaccount to Midclear's account with the BDL, have read and accepted Midclear's rules and instructions, and have signed a subcustody agreement with Midclear.

Midclear services cover securities of all types, including shares, debt securities, units in collective investment schemes, warrants or options to subscribe or purchase securities, provided that they are quoted or likely to be quoted on a regulated financial market. Issuers can be Lebanese and foreign issuers, including supranational bodies. Securities can be denominated in Lebanese pounds or US dollars, or, in the near future, other currencies as well.

All information is transmitted and received electronically between Midclear and those of its members who use SWIFT. Midclear is a member of SWIFT and all confirmations and instructions received from or sent to foreign investors are transmitted using the appropriate SWIFT message types and formats.

Through its links with various clearing organisations in other countries and with international clearing organisations, Midclear ensures the smooth transfer of securities to and from Lebanon. Those organisations include Clearstream (Luxembourg - Cedcom 2000), Euroclear (Brussels), Kuwait Clearing House and MISR for Clearing, Settlement and Central Depository (Cairo).

### **4.3 Settlement**

Trades received from the BSE are settled three working days after the trade date. DVP instructions received directly from members relating to securities traded over the counter are settled on the requested settlement date. All instructions transmitted to Midclear from the BSE for settlement purposes are considered irrevocable. All over-the-counter instructions are considered irrevocable unless cancelled by both parties (deliverer and recipient).

The settlement procedure of Midclear is based on the simultaneous net settlement of securities and funds transfers. Transfer instructions for both securities and funds are settled on a net basis, with final transfer of both securities and funds occurring at the end of the processing cycle ("Model 3 DVP" in the

terms of the BIS report *Delivery versus payment in securities settlement systems*).<sup>6</sup> Settlement occurs once a day and no trades are partially settled. Settlement is through book entry on members' securities accounts. Funds accounts are maintained at the central bank. During settlement, running balances of debits and credits to funds and securities accounts are calculated. All funds and securities transfers are provisional until the end of the processing cycle. If and only if all participants have sufficient balances of funds and securities, final transfers of the net securities balances and net funds balances are executed.

All Midclear members are requested to verify their holdings of securities and cash before the start of the settlement process. In the event of a deficiency in cash or securities, Midclear selectively removes the failing member's individual transaction(s) until the resulting net debit can be covered by the balance on the member's account (securities or cash as the case may be) and the BSE is informed of the failure. The resulting impact on the counterparties to the failing member is managed by informing the BSE, which compels the failing member to either buy in (securities deficiency) or sell out (cash deficiency). In the meantime the failed trade will be retried for up to a maximum of nine days for a securities deficiency and one day for a cash deficiency. If at the end of the retrial period the failed transactions remain unsettled, the BSE will take necessary measures in accordance with established procedures. Where appropriate, this could involve recourse to the cash collateral put up by the failing member in accordance with the BSE's rules at the time it became a member.

All cash settlements are carried out in the books of the BDL. Each member entitled to open an account at the BDL is required to open a separate subaccount for each currency, specifically designated for the settlement of cash transfers related to securities transactions only. Information about the balances on these accounts is transmitted daily by the BDL to Midclear, whose system will verify whether the balances are sufficient for the day's net settlement. Midclear then informs the BDL of the net cash positions, in order for the BDL to effect settlement in the cash settlement accounts. A member who does not wish or is not eligible to open an account at the BDL can designate another member to settle transactions on its behalf or it can designate Midclear as its settlement agent.

Midclear's services as settlement agent include the following:

- supervising trade settlements in line with instructions;
- providing same day information on securities received and/or delivered;
- providing same day information on refused receipts and deliveries;
- supervising interest/dividend payments as well as the transfer of rights related to trade settlements.

Journal entries at Midclear for the deposit, withdrawal and transfer of stocks are for same day value. Trades executed for value are recorded three working days after the trade date. Transfers of securities not requiring cash entries can be requested for up to 30 days in advance.

Chart 1 depicts the processing flow from trading until settlement between all related parties, namely customers, brokers, the BSE, Midclear and the BDL.

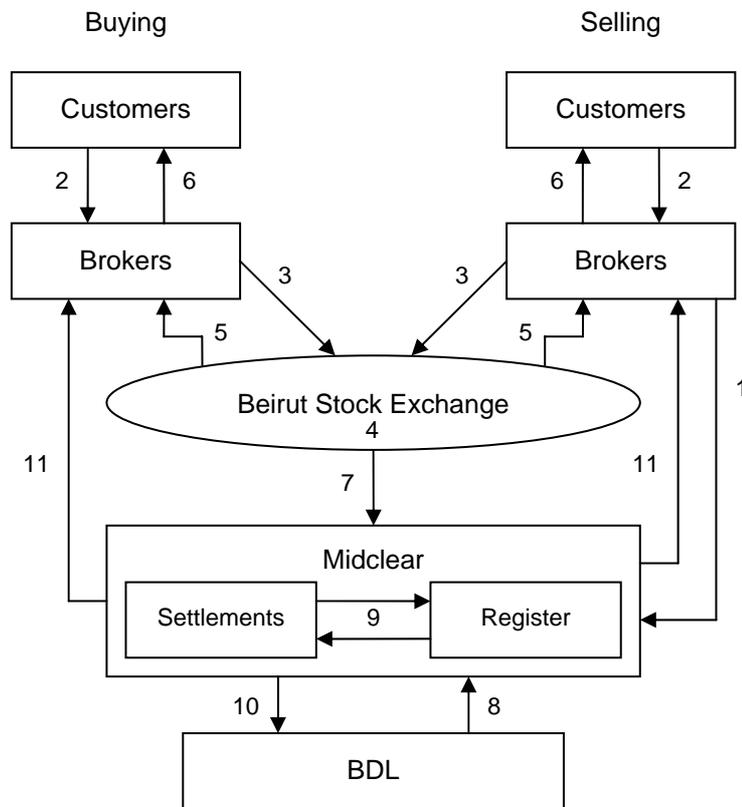
#### **4.4 The use of the securities infrastructure by the central bank**

As mentioned in Section 1.2, the BDL acts as an agent for the government and is also the lender of last resort for banks. The BDL does not offer lending facilities against collateral but, upon a bank's request and BDL approval, it lends cash in the context of a repurchase operation. The underlying securities have always been Lebanese Treasury bills or bonds denominated in Lebanese pounds. Repurchase operations are executed on T+0 on a DVP basis using the national settlement system at the BDL for LBP Treasury securities.

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<sup>6</sup> See Committee on Payment and Settlement Systems, *Delivery versus payment in securities settlement systems*, September 1992. The report is available on the BIS website ([www.bis.org](http://www.bis.org)).

Chart 1  
Sequence of operations in Midclear



1. Dematerialisation of physical securities at Midclear before settlement.
2. The customer communicates its buying or selling order to a broker, which acts as account holder or trader.
3. Brokers communicate orders to the BSE on a continuous basis between 10:00 and 12:00 on the trading day (day T); each customer order is individually transmitted to the market.
4. On day T the BSE computerised system matches the buy and sell orders continuously. The deal is considered confirmed as soon as the matching occurs in the system.
5. At the end of the session, a list of all trades is issued reconfirming all the deals of the session.
6. The broker relays the execution statement to its customer.
7. The results of the trading session are communicated to Midclear.
8. The BDL transmits the cash balances of the brokers to Midclear on a daily basis.
9. Transactions to be settled are validated against cash and securities balances on the settlement date in Midclear. Transfer of ownership occurs upon updating the register of each listed company.
10. The BDL records irrevocable debit or credit entries transmitted by Midclear after the settlement process.
11. The following day, Midclear provides account statements to its members.



## **Statistical tables**



Table 1  
Basic statistical data

	1997	1998	1999	2000	2001
Population (year-end) <sup>1</sup>	4,145,530	4,210,340	4,271,230	4,328,000	4,385,562
Nominal GDP (USD millions) <sup>2</sup>	14,868	16,254	16,543	16,488	16,510
GDP per capita (USD)	3,587	3,860	3,873	3,810	3,765
Exchange rate (LBP/USD):					
Year-end	1,527.00	1,508.00	1,507.50	1,507.50	1,507.50
Average	1,539.23	1,515.87	1,507.84	1,507.50	1,507.50

<sup>1</sup> Source: World Bank, *World Development Indicators* - estimated figures for 2001. <sup>2</sup> Unofficial estimates.

Table 2  
Settlement media used by non-banks  
End of year, in millions of LBP

	1997	1998	1999	2000	2001
Notes and coin	1,210,045	1,241,298	1,369,322	1,423,381	1,381,652
Sight deposits in LBP	719,323	810,224	891,407	965,903	983,554
M1	1,929,368	2,051,522	2,260,729	2,389,284	2,365,206
Other deposits in LBP	12,600,489	14,502,728	17,978,923	17,103,248	14,917,622
M2	14,529,857	16,554,250	20,239,652	19,492,532	17,282,828
Deposits in foreign currencies	19,855,263	23,523,785	24,467,330	29,562,098	35,435,626
Certificates of deposit in foreign currencies	184,456	60,727	118,008	180,097	191,785
Bonds <sup>1</sup>	327,874	370,610	167,545	59,622	7,962
M3	34,897,450	40,509,372	44,992,535	49,294,349	52,918,201
Treasury bills held by the public	5,878,000	5,271,500	6,302,400	6,698,900	6,133,400
M4	40,775,450	45,780,872	51,294,935	55,993,249	59,051,601

<sup>1</sup> Bonds were included in M3 and M4 starting July 1996.

Table 3

**Settlement media used by banks**

End of year, in millions of LBP

	1997	1998	1999	2000	2001
Reserve balances held at central bank <sup>1</sup>	1,810,695	2,005,966	2,499,091	2,300,148	2,676,854
Transferable deposits at other institutions <sup>2</sup>	1,252,079	1,082,590	1,397,277	1,612,195	1,761,702
<i>Memo:</i>					
<i>Required reserves (LBP)</i> <sup>3</sup>	1,810,695	2,052,350	2,531,307	2,356,073	2,388,511
<i>Institutional borrowing from central bank</i> <sup>4</sup>	97,575	351,068	382,476	713,586	778,722

<sup>1</sup> Sight deposits in Lebanese pounds and foreign currencies. <sup>2</sup> Commercial banks' sight deposits at non-resident banking and financial sector institutions. <sup>3</sup> Required reserves in Lebanese pounds for the LRR (cash + accepted special Treasury bills). <sup>4</sup> Commercial bank borrowing in Lebanese pounds and foreign currencies.

Table 4

**Banknotes and coin**

End of year, in millions of LBP

	1997	1998	1999	2000	2001
Total banknotes and coin issued <sup>1</sup>	3,299,393	3,196,496	2,965,166	3,334,893	3,422,356
<i>Denomination of banknotes:</i>					
<i>LBP 100,000</i>	1,311,100	1,309,200	1,256,500	1,514,900	1,497,700
<i>LBP 50,000</i>	544,150	490,750	463,050	549,400	699,100
<i>LBP 20,000</i>	493,320	477,760	371,360	388,380	299,660
<i>LBP 10,000</i>	420,480	437,940	448,600	472,540	492,490
<i>LBP 5,000</i>	141,655	107,675	69,370	57,270	89,215
<i>LBP 1,000</i>	352,842	339,212	323,704	318,782	309,081
<i>LBP 500</i>	5,683	4,763	4,243	3,654	3,327
<i>LBP 250</i>	9,124	6,568	5,116	4,880	4,576
<i>LBP 100</i>	2,013	1,710	1,620	1,594	1,559
<i>LBP 50</i>	978	912	864	855	840
<i>LBP 25</i>	151	150	150	150	150
<i>LBP 10</i>	149	149	149	149	149
<i>LBP 5</i>	112	112	112	112	112
<i>LBP 1</i>	29	29	29	29	29
<i>Denomination of coins:</i>					
<i>LBP 50</i>	402	446	491	523	539
<i>LBP 100</i>	1,435	1,574	1,690	1,806	1,996
<i>LBP 250</i>	4,998	5,626	5,696	6,397	7,095
<i>LBP 500</i>	10,772	11,920	12,422	13,472	14,737
Banknotes and coin held by credit institutions <sup>2</sup>	114,806	111,337	146,086	198,418	145,516
Total banknotes and coin outside credit institutions <sup>3</sup>	3,184,587	3,085,159	2,819,080	3,136,475	3,276,840

<sup>1</sup> Central bank vault cash, commercial banks' vault cash and cash in public hands in Lebanese pounds. <sup>2</sup> LBP vault cash held by commercial banks. <sup>3</sup> Central bank vault cash and cash in public hands.

Table 5  
**Institutional framework**  
End of year

	1997	1998	1999	2000	2001
<b>Central bank</b>					
Number of institutions	1	1	1	1	1
Number of branches	9	9	9	9	9
<b>Commercial banks</b>					
Number of institutions	72	70	66	62	60
<i>Of which: foreign</i>	15	16	17	15	14
Number of branches	656	669	723	753	780
<i>Of which: foreign</i>	48	49	50	50	48
Number of deposit accounts (thousands)	1,766	1,838	1,867	2,011	2,110
Value of deposit accounts (LBP billions)	37,695	45,334	50,884	56,192	59,277
<b>Financial institutions</b>					
Number of institutions	20	23	24	26	28
Number of branches	22	25	26	30	32
<b>Medium- and long-term banks</b>					
Number of institutions	8	9	7	7	8
Number of branches	12	13	10	10	10
<b>Licensed money dealers</b>					
Number of institutions	nap	283	320	355	370
<b>Licensed financial intermediaries</b>					
Number of institutions	3	3	5	5	5
<b>Licensed leasing companies</b>					
Number of institutions	nap	nap	nap	2	3
<b>Licensed mutual funds</b>					
Number of institutions	72	159	347	602	962
<i>Of which: foreign</i>	70	157	345	599	958

Table 6  
**Payment card functions and accepting devices**  
 End of year

	1997	1998	1999	2000	2001
<b>ATMs</b>					
Number of online networks	4	3	3	3	3
Number of machines	183	282	368	433	571
Volume of transactions (ATMs + cashier)	746,394	1,099,395	1,996,462	3,261,194	4,308,208
Value of transactions in USD millions (ATMs + cashier)	109	189	348	559	737
POS terminals	nav	nav	nav	nav	25,840
<b>Cards</b>					
Number of cards with a cash function only	19,456	27,350	29,635	32,136	39,360
Number of cards with a debit/credit function	78,406	157,534	219,441	294,777	368,498

Note: The majority of cards with a debit and/or credit function also have a cash function.

Table 7  
**Payment instructions handled by selected interbank funds transfer systems:  
 volume of transactions**

	1997	1998	1999	2000	2001
<b>Central bank (SWIFT):</b>					
Domestic	110,406	137,450	170,503	191,700	217,959
Cross-border	36,912	15,637	15,526	16,203	17,951
Concentration ratio					
Domestic	nav	nav	nav	nav	35.34
Cross-border	nav	nav	nav	nav	68.14
<b>Central bank (non-SWIFT):</b>	<b>nav</b>	<b>31,831</b>	<b>24,031</b>	<b>18,709</b>	<b>12,544</b>
Concentration ratio	nav	nav	nav	nav	nav
<b>Central bank clearing houses (in thousands):</b>	<b>10,916</b>	<b>11,218</b>	<b>10,916</b>	<b>10,754</b>	<b>10,908</b>
Concentration ratio in %					
For LBP cheques	nav	nav	nav	38.17	nav
For USD cheques	nav	nav	nav	38.82	nav

Table 8

**Payment instructions handled by selected interbank funds transfer systems:  
value of transactions**

In millions of LBP

	1997	1998	1999	2000	2001
<b>Central bank (SWIFT):</b>					
Domestic	nav	67,754,460	60,583,013	80,275,646	90,106,482
Cross-border	nav	138,016,730	132,940,475	145,021,420	195,746,958
Concentration ratio					
Domestic	nav	nav	nav	nav	23.84
Cross-border	nav	nav	nav	nav	88.88
<b>Central bank (non-SWIFT):</b>	<b>nav</b>	<b>27,014,998</b>	<b>21,492,457</b>	<b>19,053,318</b>	<b>17,912,294</b>
Concentration ratio	nav	nav	nav	nav	nav
<b>Central bank clearing houses:</b>	<b>42,566,096</b>	<b>45,775,577</b>	<b>40,245,667</b>	<b>39,930,399</b>	<b>40,074,102</b>
Concentration ratio (in %)					
For LBP cheques	nav	nav	nav	42.70	nav
For USD cheques	nav	nav	nav	37.05	nav

Table 9

**Indicators of use of various cashless payment instruments:  
volume of transactions**

In thousands

	1997	1998	1999	2000	2001
Cheques issued:					
<i>LBP</i>	3,307	3,261	3,186	3,311	3,476
<i>Foreign currency</i>	7,609	7,957	7,730	7,443	7,432
Payments by card:					
<i>Debit/credit</i>	1,041	1,279	1,751	2,341	2,836

Table 10

**Indicators of use of various cashless payment instruments:  
value of transactions**

In millions of LBP

	1997	1998	1999	2000	2001
Cheques issued:					
<i>LBP</i>	10,431,908	11,176,025	10,534,349	11,569,801	11,746,669
<i>Foreign currency</i>	32,134,188	34,599,552	29,711,318	28,360,598	28,327,433
Payments by card:					
<i>Debit/credit</i>	277,914	331,760	408,533	490,541	579,332

Table 11a  
**Instructions handled by trading platforms, clearing houses  
and securities settlement systems:  
volume of transactions**  
In thousands

	1997	1998	1999	2000	2001
<b>Trading platforms</b>					
Beirut Stock Exchange (BSE)					
<i>Stocks</i>	95.00	58.00	21.70	14.00	4.74
<i>Rights</i>	nav	nav	nav	nav	nav
<i>Mutual funds</i>	nav	0.09	0.03	0.01	0.01
<b>Securities settlement systems</b>					
Midclear <sup>1</sup>					
<i>Stocks</i>	95.00	58.00	21.73	14.00	18.90
<i>Bonds</i>	nav	nav	nav	nav	1.38
<i>Rights</i>	nav	neg	neg	neg	neg
<i>Mutual funds</i>	nav	0.09	0.03	0.01	0.07
Central bank					
<i>Public sector Treasury bills and other securities handled by the central bank</i>	nav	nav	nav	18.00	14.00

<sup>1</sup> Midclear figures for the year 2001 include BSE and OTC figures.

Table 11b  
**Instructions handled by trading platforms, clearing houses  
and securities settlement systems:  
value of transactions**  
In billions of LBP

	1997	1998	1999	2000	2001
<b>Trading platforms</b>					
Beirut Stock Exchange (BSE)					
<i>Stocks</i>	977.28	494.64	133.64	175.42	79.37
<i>Rights</i>	nav	nav	nav	nav	nav
<i>Mutual funds</i>	nav	3.08	3.54	2.47	0.48
<b>Securities settlement systems</b>					
Midclear <sup>1</sup>					
<i>Stocks</i>	977.28	494.64	133.64	175.42	147.45
<i>Bonds</i>	nav	nav	nav	nav	0 <sup>2</sup>
<i>Rights</i>	nav	neg	neg	neg	neg
<i>Mutual funds</i>	nav	3.08	3.54	2.47	0.48
Central bank					
<i>Public sector Treasury bills and other securities handled by the central bank</i>	nav	nav	nav	44,923	66,474

Note: Figures for netting ratios are not available.

<sup>1</sup> Midclear figures for the year 2001 include BSE and OTC figures. <sup>2</sup> Such bonds represent free-of-payment transfers.

Table 11c

**Number of participants in trading platforms, clearing  
houses and securities settlement systems**

	1997	1998	1999	2000	2001
<b>Trading platforms</b>					
BSE					
<i>Investment banks</i>	4	4	4	4	4
<i>Financial institutions</i>	9	10	12	11	11
<b>Securities settlement systems</b>					
Midclear					
<i>Banks</i>	19	23	23	23	48
<i>Investment banks</i>	5	5	5	6	7
<i>Custodian</i>	1	1	1	3	3
<i>Foreign custodian</i>	1	4	5	5	6
<i>Depository</i>	2	2	2	2	2
<i>Financial institutions</i>	11	13	14	16	15
Central bank					
<i>Commercial banks and financial institutions</i>	nav	102	97	95	96

Table 11d

**Outstanding securities**

End of year

	1997	1998	1999	2000	2001
<b>BSE</b>					
Value of securities issued (LBP billions)	4,098	3,657	2,896	2,386	1,881
Volume of securities issued (number of trades)	12	15	16	16	17
Value of securities registered (LBP billions)	3,574	3,345	2,676	2,198	1,553
Volume of securities registered	7	11	12	12	12
<b>Lebanese Treasury bills (public sector)</b>					
Value of securities issued (LBP billions)	nav	23,788	18,451	25,049	24,904
Volume of securities issued (thousands)	nav	2,308	1,706	2,411	2,410
Value of securities registered (LBP billions)	nap	nap	nap	nap	nap
Volume of securities registered	nap	nap	nap	nap	nap
<b>CDs issued by the central bank</b>					
Value of securities issued (LBP billions)	2,039.0	710.0	1,398.0	1,476.8	135.0
Volume of securities issued (thousands)	2.0	0.7	1.4	1.5	0.1
Value of securities registered (LBP billions)	nap	nap	nap	nap	nap
Volume of securities registered	nap	nap	nap	nap	nap

Table 11e  
**Netting ratio in clearing systems**

Details are not available.

Table 12  
**Participation in SWIFT by domestic institutions**

	1997	1998	1999	2000	2001
Live members	34	33	27	26	24
Live submembers	10	12	15	15	16
Live participants	4	9	16	16	17
Total live users	48	54	58	57	57
<i>Memo: Total SWIFT users</i>	6,372	6,771	6,991	7,294	7,317
<i>Of which:</i>					
<i>Members</i>	3,070	3,052	2,230	3,561	2,241
<i>Submembers</i>	2,621	2,781	2,825	3,038	3,027
<i>Participants</i>	681	938	1,936	695	2,049

Note: Membership numbers for 1999 are indicated as having decreased because the "non-shareholding banks" were classified under "participants".

Table 13  
**SWIFT message flows to/from domestic users**

	1997	1998	1999	2000	2001
Total messages sent	952,618	1,191,623	1,365,392	1,523,002	1,802,069
<i>Of which:</i>					
<i>Category I - customer transfers</i>	324,683	383,006	454,989	511,853	602,118
<i>Category II - institution transfers</i>	280,369	339,230	392,305	428,202	500,641
Total messages received	1,015,709	1,256,064	1,474,443	1,667,090	1,917,801
<i>Of which:</i>					
<i>Category I - customer transfers</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>
<i>Category II - institution transfers</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>	<i>nav</i>
Domestic traffic (total messages sent and received)	1,968,327	2,447,687	2,839,835	3,190,092	3,719,870
<i>Memo: Global SWIFT traffic (in millions)</i>	812	937	1,059	1,274	1,534

## **Comparative tables**



Table 1  
**Banknotes and coin in circulation**  
 End of year

	Total (USD millions) <sup>1</sup>					Value per inhabitant (USD) <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	792	823	908	944	917	191	196	213	218	209
Belgium	11,953	12,694	12,055	11,045	6,257	1,174	1,244	1,179	1,078	609
Canada	20,704	20,698	25,518	23,539	23,697	688	682	834	762	759
France	44,584	48,303	44,907	41,500	25,822	745	804	745	685	424
Germany	137,688	144,327	131,706	117,149	59,928	1,678	1,759	1,604	1,425	728
Hong Kong SAR	10,404	10,479	12,807	11,770	13,035	1,603	1,601	1,938	1,766	1,938
Italy	61,080	69,410	66,124	64,632	50,806	1,062	1,205	1,147	1,120	877
Japan	405,887	471,446	581,944	539,144	507,160	3,217	3,728	4,594	4,248	3,984
Netherlands	19,205	19,974	17,400	15,753	8,055	1,231	1,272	1,101	989	502
Singapore	6,389	6,110	6,792	6,520	6,412	1,684	1,558	1,719	1,623	1,552
Sweden	9,370	9,579	10,231	9,409	9,162	1,059	1,082	1,155	1,061	1,030
Switzerland	19,796	21,858	19,830	19,562	21,418	2,783	3,065	2,767	2,715	2,950
United Kingdom	40,116	42,339	45,612	45,057	47,102	680	715	767	754	786
United States	428,100	463,300	521,500	535,200	584,900	1,597	1,713	1,911	1,944	2,052
CPSS <sup>2</sup>	1,215,277	1,340,519	1,496,425	1,440,281	1,363,754	1,654	1,815	2,016	1,930	1,799

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 1 (cont)

**Banknotes and coin in circulation**

End of year

	As a percentage of GDP					As a percentage of narrow money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	5.3	5.1	5.5	5.7	5.6	62.7	60.5	60.6	59.6	58.4
Belgium	5.0	4.8	5.1	4.8	2.8	26.5	23.8	20.4	19.3	11.8
Canada	3.4	3.5	3.8	3.3	3.5	14.2	14.5	15.6	13.7	13.0
France	3.3	3.2	3.3	3.1	2.0	13.1	12.9	12.7	11.9	7.4
Germany	6.7	6.4	6.6	6.2	3.3	27.1	24.1	23.5	21.9	11.3
Hong Kong SAR	6.1	6.4	8.1	7.2	7.9	42.8	45.5	48.5	45.0	44.2
Italy	5.4	5.5	5.9	6.0	4.7	16.1	16.1	14.4	14.3	11.3
Japan	10.1	10.5	11.7	12.1	13.1	25.8	25.3	24.8	25.0	23.7
Netherlands	5.3	4.8	4.6	4.2	2.1	15.7	14.1	12.8	11.4	5.7
Singapore	7.6	7.4	8.0	7.1	7.7	38.9	37.2	36.4	33.9	32.9
Sweden	4.1	4.1	4.3	4.3	4.5	nav	nav	nav	nav	nav
Switzerland	7.8	7.9	8.2	7.9	8.7	15.6	15.5	15.3	15.8	16.7
United Kingdom	3.0	3.0	3.1	3.2	3.3	5.0	5.0	5.0	5.0	5.0
United States	5.1	5.3	5.6	5.4	5.8	39.0	41.4	45.4	48.1	48.6
CPSS <sup>2</sup>	5.9	6.4	6.8	6.5	6.2	23.3	23.1	23.6	23.7	21.9

<sup>1</sup> Converted at end-of-year exchange rates.

CPSS: <sup>2</sup> Sum or average excluding those countries where data are not available.

Table 2  
**Transferable deposits held by non-banks**  
 End of year

	Value per inhabitant (USD) <sup>1</sup>					As a percentage of GDP					As a percentage of narrow money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	114	128	138	148	149	3.2	3.3	3.6	3.9	4.0	37.3	39.5	39.4	40.4	41.6
Belgium	3,261	3,984	4,609	4,504	4,558	14.0	15.5	19.9	20.0	20.9	73.5	76.2	79.6	80.8	88.2
Canada	4,169	4,010	4,512	4,818	5,091	20.3	20.4	20.3	20.9	23.2	85.8	85.5	84.4	86.3	87.0
France	4,913	5,436	5,127	5,080	5,323	21.5	21.4	22.7	23.3	25.1	86.8	87.1	87.3	88.1	92.6
Germany	4,515	5,542	5,220	5,080	5,712	18.0	20.1	21.6	22.2	25.8	72.9	75.9	76.5	78.1	88.7
Hong Kong SAR	2,140	1,915	2,061	2,160	2,448	8.1	7.7	8.6	8.9	10.0	57.2	54.5	51.5	55.0	55.8
Italy	5,379	6,179	6,798	6,704	6,858	27.4	28.4	35.2	35.7	37.1	81.7	82.4	85.6	85.7	88.7
Japan	9,246	10,988	13,931	12,748	12,854	29.0	31.0	35.4	36.2	42.4	74.2	74.7	75.2	75.0	76.3
Netherlands	6,609	7,740	7,499	7,710	8,294	28.3	29.4	31.5	32.8	35.2	84.3	85.9	87.2	88.6	94.3
Singapore	2,644	2,625	3,007	3,158	3,167	12.0	12.4	13.9	13.8	15.8	61.1	62.8	63.6	66.1	67.1
Sweden	10,487	10,503	10,678	9,972	9,867	40.2	39.7	40.2	40.0	42.8	nav	nav	nav	nav	nav
Switzerland	8,561	9,682	8,714	8,234	8,462	23.9	25.0	25.7	23.9	24.8	47.9	48.9	48.2	47.9	47.8
United Kingdom	12,997	13,718	14,471	14,225	14,960	57.0	57.2	59.0	60.0	62.7	95.0	95.0	95.0	95.0	95.0
United States	2,464	2,398	2,266	2,066	2,143	7.9	7.4	6.7	5.8	6.1	60.2	57.9	53.9	51.2	50.7
CPSS <sup>2</sup>	5,452	6,034	6,547	6,219	6,403	19.4	21.3	22.1	20.8	22.1	75.5	75.8	75.6	75.4	77.2

Note: Please refer to the individual country tables for detailed explanation.

<sup>1</sup> Converted at end-of-year exchange rates.

CPSS: <sup>2</sup> Average excluding those countries where data are not available.

Table 3  
**Settlement media used by banks**  
 End of year

	Banks' reserves at central bank									
	USD billions <sup>1</sup>					As a percentage of narrow money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	1.2	1.3	1.7	1.5	1.8	93.9	97.8	110.5	96.3	113.2
Belgium	neg	1.0	7.4	6.7	6.7	0.1	1.8	12.5	11.8	12.6
Canada	0.3	0.4	0.9	0.3	0.3	0.2	0.3	0.6	0.2	0.2
France <sup>2</sup>	3.8	19.4	24.1	26.0	26.3	1.1	5.2	6.8	7.4	7.5
Germany	23.4	27.7	33.5	33.0	34.3	4.6	4.6	6.0	6.2	6.5
Hong Kong SAR <sup>3</sup>	neg	0.3	1.0	0.1	0.1	0.2	1.4	3.9	0.3	0.3
Italy	47.6	11.9	12.2	11.4	11.5	12.6	2.8	2.7	2.5	2.6
Japan	27.7	33.2	94.9	36.9	82.6	1.8	1.8	4.0	1.7	3.9
Netherlands	3.0	9.1	7.3	8.7	9.0	2.5	6.4	5.4	6.3	6.3
Singapore	4.6	3.3	4.5	3.3	3.8	28.0	19.9	24.2	17.1	19.3
Sweden	0.3	0.2	0.5	neg	neg	nav	nav	nav	nav	nav
Switzerland	4.2	5.6	6.6	4.7	4.7	3.3	4.0	5.1	3.8	3.7
United Kingdom	4.5	2.6	3.6	2.5	2.7	0.6	0.3	0.4	0.3	0.3
United States	18.3	15.6	12.4	13.5	17.8	1.7	1.4	1.1	1.2	1.5
CPSS <sup>4</sup>	137.8	130.2	208.9	147.2	199.6	2.7	2.3	3.3	2.4	3.2

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 3 (cont)  
**Settlement media used by banks**  
 End of year

	Transferable deposits at other banks									
	USD billions <sup>1</sup>					As a percentage of narrow money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	0.8	0.7	0.9	1.1	1.2	64.9	52.8	61.8	67.5	74.5
Belgium	4.9	5.4	6.5	6.6	11.7	10.9	10.1	11.0	11.5	22.0
Canada	3.7	4.2	5.2	4.5	3.3	2.5	2.9	3.2	2.6	1.8
France <sup>2</sup>	149.1	183.9	190.7	169.2	165.9	44.0	49.1	53.9	48.4	47.4
Germany	238.9	281.9	114.9	105.5	108.5	47.0	47.1	20.5	19.7	20.5
Hong Kong SAR <sup>3</sup>	nap	nap	nap	nap	nap	nap	nap	nap	nap	nap
Italy	55.0	64.2	59.3	88.1	75.0	14.5	14.9	12.9	19.5	16.7
Japan	29.9	30.7	103.1	37.8	52.8	1.9	1.6	4.4	1.8	2.5
Netherlands	1.2	25.0	16.4	49.7	26.9	1.0	17.7	12.1	35.9	19.1
Singapore	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Sweden	11.9	13.9	11.1	7.9	11.7	nav	nav	nav	nav	nav
Switzerland	23.6	37.2	26.2	30.8	27.4	18.6	26.3	20.3	24.8	21.3
United Kingdom	371.1	357.9	358.9	361.4	404.3	46.1	41.9	39.6	40.4	42.8
United States	29.5	32.8	27.5	32.1	34.9	2.7	2.9	2.4	2.9	2.9
CPSS <sup>4</sup>	918.9	1,037.0	919.7	893.4	922.4	17.6	17.9	14.5	14.8	14.9

<sup>1</sup> Converted at end-of-year exchange rates.

France: <sup>2</sup> Change in reserves policy from 16 October 1998.

Hong Kong SAR: <sup>3</sup> Banks do not maintain reserves with the HKMA as there are no reserve requirements in Hong Kong SAR. The data represent the closing balance of the aggregate balance of settlement accounts.

CPSS: <sup>4</sup> Sum or average excluding those countries where data are not available.

Table 4  
Institutional framework

	Number of institutions offering payment services <sup>1</sup>		Number of central bank branches <sup>1</sup>		Number of bank branches <sup>1</sup>		Number of post office branches <sup>1</sup>		Others <sup>1</sup>		Total number of branches offering payment services <sup>1</sup>		Number of accounts on which payments can be made <sup>2</sup>	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Lebanon	22.2 <sup>a</sup>	22.1 <sup>a</sup>	2.1	2.1	174.0	177.9	nap <sup>b</sup>	nap <sup>b</sup>	124.8 <sup>c</sup>	129.1 <sup>c</sup>	185.3 <sup>a</sup>	189.5 <sup>a</sup>	0.5	0.5
Belgium	11.8	11.2	0.8	0.7	645.1	599.9	135.1	131.1	nap	nap	780.2	731.1	1.2	1.0
Canada <sup>3, 4</sup>	62.0	54.1	0.0	0.0	270.3	285.9	nap	nap	173.3	172.4	443.6	458.3	nav	nav
France	27.8	26.9	3.5	3.5	423.5	427.7	272.9	185.5	65.3	64.5	765.2	681.1	1.1	1.1
Germany <sup>5</sup>	33.3	30.6	1.6	1.6	681.1	640.5	nap	nap	nap	nap	682.9	642.0	1.1	1.1
Hong Kong SAR <sup>6</sup>	23.1	19.8	0.2	0.1	241.3	218.6	nap	nap	nap	nap	241.4	218.7	nav	nav
Italy	13.6	13.3	1.7	1.7	486.4	503.4	241.3	237.0	nap	nap	729.4	742.2	0.6	0.6
Japan	22.3	19.6	0.3	0.3	315.4	304.3	190.4	189.9	nap	nap	506.0	494.5	nav	nav
Netherlands <sup>7</sup>	7.1	6.9	0.3	0.2	238.0	218.6	137.4	140.4	nap	nap	375.7	359.3	1.4	1.4
Singapore <sup>8</sup>	54.0	48.9	0.7	0.7	174.7	150.6	nap	nap	nap	nap	175.0	150.8	nav	nav
Sweden	14.3	15.1	0.1	0.1	225.6	229.3	154.7	151.7	nap	nap	380.3	381.1	nav	nav
Switzerland	46.6	45.2	0.8	0.8	395.5	387.5	469.9	437.6	nap	nap	866.2	825.9	nav	nav
United Kingdom	8.4	8.0	neg	neg	252.0	244.9	307.8	291.9	nap	nap	559.8	536.9	2.7	2.6
United States	74.5	71.2	0.1	0.1	282.4	272.9	nap	nap	nap	nap	282.4	273.0	nav	nav
CPSS <sup>9</sup>	42.9	40.8	0.7	0.7	359.7	349.2	234.3	214.7	nap <sup>10</sup>	nap <sup>10</sup>	481.8	460.9	nap <sup>10</sup>	nap <sup>10</sup>

Note: Please refer to the individual country tables for detailed explanation.

<sup>1</sup> Per million inhabitants. <sup>2</sup> Per inhabitant.

Lebanon: <sup>a</sup> BDL, commercial banks, medium- and long-term banks and financial institutions. <sup>b</sup> Post offices in Lebanon do not play a role in the payment system. <sup>c</sup> Money dealers, financial intermediaries, leasing companies and mutual funds.

Canada: <sup>3</sup> "Number of central bank branches": there are five branches but only one offers payment services. <sup>4</sup> "Others" includes trust and loan companies; local credit unions and caisses populaires; and governmental savings institutions.

Germany: <sup>5</sup> Postbank AG is a fully fledged credit institution, and those post office branches which are entrusted with the semi-cashless payment systems on behalf of Postbank AG are included under "Number of bank branches" (and not "Number of post office branches").

Hong Kong SAR: <sup>6</sup> "Number of central bank branches" excludes the HKMA's two overseas representative offices (London and New York).

Netherlands: <sup>7</sup> "Number of bank branches" excludes the counters of the postal institution.

Singapore: <sup>8</sup> As at end-March. The institutions offering payment services include banks and finance companies.

CPSS: <sup>9</sup> Average excluding those countries where data are not available. <sup>10</sup> Statistically not relevant.

Table 5  
Cards with a cash function and ATMs

	Number of ATMs per million inhabitants (end of year)					Number of transactions per inhabitant					Average value per transaction (USD) <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	44	67	86	100	130	0.2	0.3	0.5	0.8	1.0	146.0	171.9	174.3	171.4	171.1
Belgium	492	564	606	657	669	15.7	15.6	17.4	19.8	21.5	117.9	118.2	111.3	97.5	92.8
Canada <sup>3</sup>	652	775	873	1,034	1,142	43.1	47.3	47.2	48.3	47.8	50.4	62.0	65.3	66.6	69.5
France	452	490	538	580	606	14.0	15.5	17.0	17.9	19.1	66.2	62.8	64.8	56.0	54.7
Germany	505	556	563	580	603	nav	17.1	18.4	20.4	19.4	nav	169.5	155.9	134.2	140.2
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	444	487	524	549	593	7.2	8.5	8.7	9.1	9.7	184.9	178.7	170.6	150.3	144.9
Japan <sup>4</sup>	924	934	944	922	918	3.0	3.1	3.1	3.2	3.1	481.4	433.8	501.3	532.2	474.4
Netherlands	410	418	422	435	445	25.9	27.1	28.5	29.5	28.0	95.9	96.0	93.7	79.7	88.2
Singapore <sup>5</sup>	499	483	470	446	435	4.0	4.0	2.6	2.1	2.1	149.4	135.0	140.0	138.2	124.7
Sweden	268	281	291	295	289	35.3	37.6	35.0	36.2	37.7	104.5	108.4	100.2	92.1	81.4
Switzerland	603	642	655	675	694	11.4	11.3	12.2	17.8	19.6	186.6	180.3	173.2	117.0	111.9
United Kingdom	393	415	460	552	612	29.6	31.2	33.1	33.9	36.6	84.5	87.8	88.8	84.5	84.0
United States	616	691	832	991	1,137	41.0	41.4	39.9	46.8	47.7	67.7	68.0	68.0	69.6	68.0
CPSS <sup>6</sup>	602	652	723	801	875	25.8	25.6	25.5	28.7	29.5	82.2	88.7	89.8	86.2	83.6

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 5 (cont)  
Cards with a cash function and ATMs

	Increase in the number of ATMs (%)					Increase in the number of transactions (%)					Increase in the value of transactions (%) <sup>2</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	144.0	54.1	30.5	17.7	31.9	42.4	47.3	81.6	63.4	32.1	62.7	73.4	84.1	60.6	31.8
Belgium	24.3	15.0	7.7	8.6	2.1	3.8	-0.2	11.4	14.1	9.2	-8.6	0.1	4.9	-0.1	4.0
Canada <sup>3</sup>	5.6	19.9	13.7	19.4	11.6	6.1	10.9	0.5	3.3	0.1	1.3	29.9	7.5	3.8	3.0
France	10.4	8.6	10.3	8.4	5.0	9.0	11.4	10.3	5.5	7.7	-5.6	5.7	13.9	-8.9	5.2
Germany	10.1	10.2	1.3	3.1	4.1	nav	nav	7.7	11.0	-4.7	nav	nav	-1.0	-4.4	-0.5
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	5.0	9.8	7.7	5.0	8.3	12.0	18.2	2.5	5.6	6.6	2.9	14.2	-2.1	-7.0	2.8
Japan <sup>4</sup>	3.0	1.3	1.2	-2.2	-0.1	4.2	3.3	neg	3.6	-2.2	-7.1	-6.9	15.6	10.0	-12.9
Netherlands	4.0	2.7	1.6	3.7	3.2	1.0	5.2	5.9	4.4	-4.3	-13.1	5.3	3.3	-11.1	5.8
Singapore <sup>5</sup>	9.2	-0.1	-2.0	-3.3	0.2	10.1	2.0	-34.8	-15.4	2.7	6.6	-7.9	-32.4	-16.5	-7.3
Sweden	-0.4	4.9	3.8	1.4	-1.9	5.1	6.7	-6.9	3.5	4.4	-8.5	10.7	-13.9	-4.9	-7.7
Switzerland	17.4	6.7	2.5	3.7	3.6	8.2	-0.6	8.5	46.9	11.2	-10.4	-4.0	4.2	-0.8	6.5
United Kingdom	4.8	6.0	11.4	20.5	11.1	9.1	6.0	6.4	3.0	8.2	18.0	10.2	7.6	-2.0	7.6
United States	18.6	13.3	21.4	20.3	18.7	2.8	1.8	-2.7	18.3	5.4	2.3	2.3	-2.7	21.1	3.0
CPSS <sup>6</sup>	10.3	8.9	11.3	11.4	11.0	4.3	4.0	0.3	13.1	4.3	0.9	4.0	1.5	8.7	1.1

<sup>1</sup> Converted at yearly average exchange rates. <sup>2</sup> In USD terms, converted using yearly average exchange rates.

Canada: <sup>3</sup> Data on the value of transactions refer to cash withdrawals only.

Japan: <sup>4</sup> Data on the volume and value of transactions refer to cash withdrawals only.

Singapore: <sup>5</sup> The transactions refer to shared ATM transactions.

CPSS: <sup>6</sup> Average excluding those countries where data are not available.

Table 6  
Cards with a debit function and POS accepting terminals

	Number of POS terminals per million inhabitants (end of year)					Number of transactions per inhabitant					Average value per transaction (USD) <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon <sup>a</sup>	nav	nav	nav	nav	5,892	0.3	0.3	0.4	0.5	0.7	174.8	172.0	154.8	139.0	135.5
Belgium	8,421	9,121	9,746	11,364	14,047	23.6	29.1	34.6	39.8	45.0	59.5	57.5	53.8	47.0	45.1
Canada	10,988	12,982	13,270	14,190	14,843	34.6	44.7	54.3	63.5	71.7	30.6	29.4	29.4	28.5	26.9
France	11,371	12,047	13,261	13,848	14,846	38.5	43.0	48.3	54.3	60.3	52.2	52.2	49.2	42.8	41.5
Germany <sup>3</sup>	3,069	4,423	5,761	7,196	5,291	2.8	8.2	10.5	12.7	14.7	74.3	84.7	79.7	67.7	65.7
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	4,886	6,001	7,549	9,884	12,918	2.2	3.0	4.3	5.5	7.3	100.8	90.8	81.5	66.6	61.3
Japan <sup>4</sup>	155	127	nav	nav	nav	neg	neg	neg	neg	neg	57.9	61.1	243.5	427.1	405.3
Netherlands	7,696	8,533	9,208	9,774	10,333	31.1	37.9	44.3	50.3	59.5	48.8	48.2	48.6	42.9	41.4
Singapore	3,954	4,088	4,506	4,851	5,067	13.4	14.8	16.6	19.1	21.2	45.2	36.5	36.7	35.7	34.9
Sweden	7,778	8,406	9,160	9,822	9,916	13.7	18.1	22.4	28.9	36.6	83.3	76.2	72.7	60.9	54.9
Switzerland	5,834	7,158	8,599	9,375	10,174	13.6	14.9	19.1	23.9	27.8	73.3	63.8	76.0	89.5	100.2
United Kingdom	8,981	10,298	11,765	12,300	12,879	25.9	29.8	35.3	39.9	46.0	50.0	52.2	51.6	50.3	51.7
United States	4,850	6,284	8,610	10,168	12,771	14.6	21.2	27.5	34.7	43.7	41.5	41.6	43.0	43.9	45.9
CPSS <sup>5</sup>	5,114	6,175	9,144	10,477	11,951	13.9	18.4	22.8	27.4	33.0	47.2	47.8	47.4	45.2	45.8

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 6 (cont)

## Cards with a debit function and POS accepting terminals

	Increase in the number of POS terminals (%)					Increase in the number of transactions (%)					Increase in the value of transactions (%) <sup>2</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon <sup>a</sup>	nav	nav	nav	nav	nav	84.6	22.9	36.9	33.7	21.1	61.3	19.4	23.1	20.1	18.1
Belgium	5.4	8.6	7.1	16.9	24.0	13.5	23.6	19.0	15.5	13.3	-1.0	19.5	11.4	0.8	8.7
Canada	30.6	19.1	3.1	7.9	5.7	53.6	30.3	22.6	18.0	14.1	44.5	25.2	22.8	14.2	7.9
France	2.6	6.3	10.5	4.9	7.8	9.4	12.1	12.8	13.0	11.5	-7.2	12.1	6.4	-1.7	8.1
Germany <sup>3</sup>	60.3	44.1	30.3	25.0	-26.3	5.6	198.9	27.7	20.5	16.7	-22.6	240.8	20.0	2.3	13.3
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	30.9	23.0	25.9	31.1	31.1	72.2	38.7	44.2	28.2	33.0	42.3	24.9	29.5	4.7	22.5
Japan <sup>4</sup>	-15.1	-17.7	nav	nav	nav	-16.7	neg	-20.0	700	93.8	57.5	5.5	219.1	1,303	83.9
Netherlands	25.1	11.6	8.6	6.9	6.5	30.9	22.6	17.7	14.5	19.1	13.3	21.0	18.8	0.9	15.1
Singapore	14.7	6.9	11.0	9.5	7.4	20.0	13.8	13.5	17.0	14.0	16.3	-8.2	14.4	13.7	11.4
Sweden	12.1	8.1	9.1	7.4	1.3	37.5	32.2	23.8	29.3	27.3	18.6	20.9	18.0	8.4	14.7
Switzerland	25.7	23.0	20.7	9.6	9.4	27.0	9.5	28.9	25.9	17.3	-3.6	-4.7	53.4	48.3	31.3
United Kingdom	-3.6	15.1	14.8	5.0	5.0	18.4	15.6	18.8	13.6	15.6	27.6	20.9	17.4	10.7	18.8
United States	48.5	30.8	38.2	19.1	30.0	58.4	46.5	31.0	27.2	30.4	63.0	46.8	35.3	29.9	36.4
CPSS <sup>5</sup>	23.3	21.4	23.2	15.3	16.1	33.0	33.3	24.1	21.0	22.4	21.0	35.1	22.9	15.6	24.1

<sup>1</sup> Converted at yearly average exchange rates. <sup>2</sup> In USD terms, converted using yearly average exchange rates.

Lebanon: <sup>a</sup> No distinction is available between cards with a debit and/or credit function. These cards might also have a cash function. Total figures for all types of cards are included in both Table 6 and Table 7.

Germany: <sup>3</sup> Figures for 1997 exclude POZ and ELV procedures.

Japan: <sup>4</sup> Figures for 1999 and thereafter are not consistent with those up to 1998. Figures up to 1998 are for the local POS services, which are no longer available. Figures for 1999 and thereafter are for the nationwide debit card service launched in January 1999.

CPSS: <sup>5</sup> Average excluding those countries where data are not available.

Table 7

## Cards with a credit function and accepting terminals

	Number of accepting terminals per million inhabitants (end of year)					Number of transactions per inhabitant					Average value per transaction (USD) <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon <sup>a</sup>	nav	nav	nav	nav	5,892	0.3	0.3	0.4	0.5	0.7	174.8	172.0	154.8	139.0	135.5
Belgium	nav	nav	nav	nav	nav	3.9	4.3	4.8	5.2	5.9	110.7	111.1	107.6	94.7	97.3
Canada <sup>3</sup>	26,900	27,555	27,233	31,205	32,021	31.8	33.3	37.5	41.2	42.3	64.9	66.2	63.3	65.1	58.6
France	11,371	12,047	13,261	13,848	14,846	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Germany <sup>4</sup>	13,406	13,911	14,852	16,449	16,252	3.7	3.9	4.1	4.3	4.5	119.4	101.0	100.0	87.6	90.0
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	nav	nav	nav	nav	nav	2.5	3.0	4.0	4.7	5.4	104.8	102.0	97.6	84.6	82.6
Japan <sup>5</sup>	4,393	5,162	5,488	6,069	6,426	10.1	11.8	12.0	15.8	17.6	117.5	96.9	116.6	100.7	85.3
Netherlands <sup>6</sup>	nav	nav	nav	nav	nav	2.5	2.7	2.8	2.9	3.0	99.8	103.6	105.7	101.5	99.5
Singapore <sup>7</sup>	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Sweden	7,778	8,406	9,160	9,822	9,916	5.4	5.9	6.4	7.6	8.3	100.7	86.4	92.5	92.7	76.5
Switzerland	nav	nav	nav	nav	nav	8.5	9.8	12.1	10.4	11.1	139.4	136.3	121.7	115.1	114.3
United Kingdom	8,981	10,298	11,765	12,300	12,879	21.2	23.0	25.0	27.1	29.1	88.5	91.7	95.7	93.6	91.2
United States	41,784	41,773	41,400	45,756	46,312	48.1	49.6	53.5	58.8	60.0	81.0	84.2	86.6	88.7	88.6
CPSS <sup>8</sup>	23,567	24,060	24,383	26,910	27,638	25.6	26.9	29.1	32.5	34.0	84.4	85.5	88.7	88.7	86.7

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 7 (cont)

## Cards with a credit function and accepting terminals

	Increase in the number of accepting terminals (%)					Increase in the number of transactions (%)					Increase in the value of transactions (%) <sup>2</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon <sup>a</sup>	nav	nav	nav	nav	nav	84.6	22.9	36.9	33.7	21.1	61.3	19.4	23.1	20.1	18.1
Belgium	nav	nav	nav	nav	nav	10.5	11.9	9.7	10.6	13.0	-2.7	12.3	6.3	-2.7	16.1
Canada <sup>3</sup>	2.7	3.3	-0.3	15.6	3.7	5.9	5.4	13.8	10.7	3.9	11.5	7.5	8.8	14.0	-6.6
France	2.6	6.3	10.5	4.9	7.8	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Germany <sup>4</sup>	10.0	3.7	6.8	10.9	-1.0	4.6	4.6	6.1	4.4	5.4	-7.2	-11.5	5.0	-8.5	8.2
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	nav	nav	nav	nav	nav	21.6	24.1	30.9	18.8	15.4	7.0	20.8	25.2	3.0	12.7
Japan <sup>5</sup>	18.5	17.8	6.5	10.8	6.2	12.7	17.4	1.4	32.3	11.8	-2.7	-3.2	21.9	14.3	-5.3
Netherlands <sup>6</sup>	nav	nav	nav	nav	nav	7.0	8.2	4.6	6.2	1.5	-12.6	12.3	6.8	2.0	-0.5
Singapore <sup>7</sup>	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	6.6	-13.1	14.7	15.9	1.1
Sweden	12.1	8.1	9.1	7.4	1.3	9.1	8.3	9.6	17.5	10.4	9.8	5.6	13.6	17.9	-0.9
Switzerland	nav	nav	nav	nav	nav	12.6	15.0	23.6	-13.1	7.1	-3.9	12.4	10.4	-17.8	6.3
United Kingdom	-3.6	15.1	14.8	5.0	5.0	11.3	8.7	9.5	8.6	7.8	21.0	12.7	14.2	6.3	5.0
United States	14.3	0.9	neg	11.5	4.8	5.4	4.0	8.8	10.9	5.6	9.3	8.2	11.8	13.6	5.5
CPSS <sup>8</sup>	12.1	2.6	1.9	11.0	4.5	6.5	5.7	8.7	12.2	6.4	8.1	6.9	12.8	12.3	4.0

<sup>1</sup> Converted at yearly average exchange rates <sup>2</sup> In USD terms, converted using yearly average exchange rates.

Lebanon: <sup>a</sup> No distinction is available between cards with a debit and/or credit function. These cards might also have a cash function. Total figures for all types of cards are included in both Table 6 and Table 7.

Canada: <sup>3</sup> Includes both credit and charge cards.

Germany: <sup>4</sup> The sum of the number of accepting terminals reported by the individual credit card institutions may result in double-counting.

Japan: <sup>5</sup> Includes cards with a delayed debit function.

Netherlands: <sup>6</sup> Includes cards with a delayed debit function.

Singapore: <sup>7</sup> For both credit and charge cards.

CPSS: <sup>8</sup> Average excluding those countries where data are not available.

Table 8  
**Number of cards<sup>1</sup>**  
 Per thousand inhabitants

	Cards with a cash function		Cards with a debit function		Cards with a credit function		Cards with a debit function issued by retailers		Cards with an e-money function		Cards with a cheque guarantee function	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Lebanon <sup>a</sup>	7.4	9.0	68.1	84.0	68.1	84.0	nav	nav	nav	nav	nav	nav
Belgium	1,359.6	1,360.5	1,216.8	1,216.5	289.9	296.2	147.1	152.2	819.4	831.0	374.7	272.0
Canada <sup>2</sup>	2,104.9	nav	1,165.8	nav	1,360.1	1,505.9	nap	nap	2.8	2.4	nap	nap
France <sup>3</sup>	675.8	711.2	609.2	652.3	nav	nav	nav	nav	nav	5.2	nav	nav
Germany	1,293.7	1,480.2	1,206.7	1,405.3	213.8	227.9	129.0	153.0	738.6	817.7	623.5	689.3
Hong Kong SAR	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Italy	366.8	394.4	350.0	370.1	293.9	345.2	nap	nap	0.8	0.5	neg	neg
Japan <sup>4</sup>	2,523.9	2,554.1	nav	nav	1,758.9	1,820.1	nap	nap	nav	nav	nap	nap
Netherlands <sup>5</sup>	1,633.0	1,608.2	1,318.9	1,315.2	314.0	311.7	nav	nav	1,312.6	1,309.0	nav	nav
Singapore <sup>6</sup>	742.2	745.1	742.2	745.1	612.5	681.2	nap	nap	1,169.0	1,365.0	nap	nap
Sweden <sup>7</sup>	551.5	536.0	515.2	541.5	429.6	418.7	nav	nav	66.8	62.6	nav	nav
Switzerland	1,149.2	1,190.6	725.6	745.2	434.6	451.9	nav	nav	465.7	485.4	739.6	762.1
United Kingdom	1,986.1	2,124.5	832.2	906.0	851.0	936.4	nap	nap	nav	nav	947.3	974.4
United States	2,758.1	2,891.7	851.9	889.4	4,539.3	4,329.5	41.0	40.0	nav	nav	nav	nav
CPSS <sup>8</sup>	2,011.6	2,112.3	853.2	896.8	2,382.4	2,354.5	nap <sup>9</sup>	nap <sup>9</sup>	455.0	365.9	nap <sup>9</sup>	nap <sup>9</sup>

Note: Please refer to the individual country tables for detailed explanation.

<sup>1</sup> A card which has several functions is counted in each relevant column (for example, a eurocheque card which can be used to withdraw cash, to make payments and to guarantee cheques is counted under each of these three items). For this reason, the figures should not be added together.

Lebanon: <sup>a</sup> No distinction is available between cards with a debit and/or credit function. These cards might also have a cash function. Total figures for both types of cards are included in both columns.

Canada: <sup>2</sup> Data on cards with a credit function as at 31 October.

France: <sup>3</sup> Figures for cards with a credit function are not provided. Data were incorrectly reported for the previous years and concerned upmarket cards (privileged cards).

Japan: <sup>4</sup> Data on cards with a cash function are at end-March of the following year. Data on cards with a credit function include cards with a delayed debit function, and are at end-March of the current year.

Netherlands: <sup>5</sup> Data on cards with a credit function include cards with a delayed debit function.

Singapore: <sup>6</sup> Data on cards with a cash and/or debit function are based on a survey of eight banks.

Sweden: <sup>7</sup> Data on cards with a credit function include cards with a delayed debit function.

CPSS: <sup>8</sup> Average excluding those countries where data are not available. <sup>9</sup> Statistically not relevant.

Table 9

**Use of cashless payment instruments**

Total number of transactions, in millions

	Cheques					Payments by credit/debit cards				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	10.9	11.2	10.9	10.8	10.9	1.0	1.3	1.8	2.3	2.8
Belgium	95.8	86.9	80.2	70.7	60.1	279.9	341.4	402.1	462.0	523.4
Canada	1,736.3	1,693.0	1,716.4	1,658.2	1,589.0	1,960.7	2,364.2	2,809.0	3,230.9	3,556.6
France	4,903.0	4,825.4	4,479.6	4,493.7	4,338.6	2,301.6	2,580.1	2,911.6	3,292.4	3,670.7
Germany <sup>2</sup>	650.3	596.0	423.5	392.2	319.0	529.4	993.0	1,199.4	1,390.9	1,583.4
Hong Kong SAR	149.9	135.8	134.1	138.6	133.5	nav	nav	nav	nav	nav
Italy	656.8	648.7	665.2	602.0	606.2	265.0	346.8	476.7	589.8	737.2
Japan	283.4	260.1	239.3	225.9	208.9	1,275.7	1,497.5	1,517.8	2,010.6	2,250.3
Netherlands <sup>3</sup>	64.9	46.6	26.7	14.2	5.3	524.4	637.1	744.4	848.3	1,001.9
Singapore <sup>4</sup>	87.7	87.6	92.6	91.7	92.0	66.1	73.4	75.8	85.5	96.5
Sweden	18.0	4.0	4.0	2.0	2.0	169.0	213.0	255.0	323.0	400.0
Switzerland <sup>5</sup>	9.3	7.7	6.7	11.2	7.2	157.6	175.9	223.0	243.5	282.1
United Kingdom	3,090.0	2,986.0	2,859.0	2,699.0	2,565.0	2,631.0	2,960.0	3,406.0	3,788.0	4,257.0
United States <sup>6</sup>	46,569.4	45,169.7	43,812.1	42,500.0	41,222.6	16,817.3	19,153.1	22,106.4	25,734.9	29,542.8
CPSS <sup>7</sup>	58,341.8	56,547.5	54,539.3	52,899.3	51,149.3	26,977.7	31,335.4	36,127.2	41,999.8	47,901.9

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 9 (cont)  
**Use of cashless payment instruments**  
 Total number of transactions, in millions

	Credit transfers					Direct debits				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Belgium	697.3	674.7	723.0	656.8	752.4	117.9	117.4	142.3	166.2	176.8
Canada	391.7	463.5	508.5	569.5	591.3	318.5	361.9	405.4	444.4	488.5
France	1,859.8	1,951.8	2,050.7	2,093.6	2,175.5	1,430.3	1,577.9	1,730.6	1,968.6	2,063.5
Germany <sup>2</sup>	5,387.3	6,216.6	7,025.3	6,446.3	6,957.9	4,867.7	4,600.5	4,806.0	5,026.7	5,080.3
Hong Kong SAR	13.5	14.8	15.5	16.6	18.1	31.7	32.7	33.5	35.2	37.1
Italy	976.0	971.4	1,003.4	1,018.6	1,038.3	290.1	329.8	496.7	569.8	610.6
Japan	1,105.5	1,143.2	1,166.9	1,215.4	1,269.2	nav	nav	nav	nav	nav
Netherlands <sup>3</sup>	1,053.1	1,075.5	1,086.2	1,140.4	1,182.7	642.8	722.6	785.0	836.2	873.8
Singapore <sup>4</sup>	15.1	15.7	13.9	14.6	16.8	23.2	20.7	17.4	17.3	19.0
Sweden	660.0	633.0	712.0	715.0	697.0	65.0	74.0	85.0	91.0	98.0
Switzerland <sup>5</sup>	505.0	554.0	586.0	545.2	503.0	25.0	27.0	30.4	46.1	47.6
United Kingdom	1,659.0	1,726.0	1,797.0	1,845.0	1,931.0	1,584.0	1,736.0	1,863.0	2,010.0	2,152.0
United States <sup>6</sup>	2,488.6	2,899.2	3,167.8	3,486.1	3,890.3	1,347.2	1,530.9	1,676.9	1,947.3	2,385.4
CPSS <sup>7</sup>	16,811.9	18,339.3	19,856.3	19,763.1	21,023.4	10,743.4	11,131.3	12,072.1	13,158.7	14,032.6

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 9 (cont)

**Use of cashless payment instruments**

Total number of transactions, in millions

	Card-based e-money					Total <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	nav	nav	nav	nav	nav	12.0	12.5	12.7	13.1	13.7
Belgium	9.4	28.2	45.5	51.3	60.5	1,200.4	1,248.5	1,393.0	1,407.0	1,573.1
Canada	nav	nav	nav	nav	nav	4,407.2	4,882.6	5,439.3	5,903.0	6,225.4
France	nap	nap	nav	nav	2.8	10,494.7	10,935.1	11,172.5	11,848.3	12,248.3
Germany <sup>2</sup>	4.2	13.6	20.7	26.6	29.4	11,438.9	12,419.7	13,474.9	13,282.7	13,970.0
Hong Kong SAR	nav	nav	nav	nav	nav	195.0	183.3	183.2	190.3	188.8
Italy	neg	neg	neg	neg	neg	2,187.9	2,296.7	2,642.0	2,780.2	2,992.3
Japan	nav	nav	nav	nav	nav	2,664.6	2,900.8	2,924.0	3,451.9	3,728.4
Netherlands <sup>3</sup>	nav	17.0	22.0	25.0	31.0	2,285.2	2,498.8	2,664.3	2,864.1	3,094.7
Singapore <sup>4</sup>	0.7	26.3	77.0	100.1	102.2	192.7	223.7	276.6	309.1	326.4
Sweden	nav	2.0	4.2	2.9	1.5	912.0	926.0	1,060.2	1,133.9	1,198.5
Switzerland <sup>5</sup>	nap	4.1	10.7	18.0	19.8	696.9	768.7	856.8	864.0	859.7
United Kingdom	nav	nav	nav	nav	nav	8,964.0	9,408.0	9,925.0	10,342.0	10,905.0
United States <sup>6</sup>	nav	nav	nav	nav	nav	67,222.5	68,752.9	70,763.2	73,668.3	77,041.1
CPSS <sup>7</sup>	nap <sup>8</sup>	91.2	180.0	223.9	247.1	112,847.7	117,444.7	122,775.0	128,044.9	134,354.4

<sup>1</sup> Sum of the available data.Germany: <sup>2</sup> Payments by debit cards in 1997 exclude POZ and ELV procedures.Netherlands: <sup>3</sup> Payments by credit/debit cards include cards with a delayed debit function.Singapore: <sup>4</sup> Interbank transactions only. Payments by credit/debit cards exclude credit card transactions. Credit transfers include large-value transactions (MEPS).Switzerland: <sup>5</sup> Includes eurocheques, bank cheques, Swiss banker traveller's cheques and, as from 2000, Postcheques.United States: <sup>6</sup> A Federal Reserve study of the cheque clearing system, published in August 2002, estimated that the number of cheques paid in the United States was 49,500 million in 1995 and 42,500 million in 2000. Values for other years are derived from these estimates.CPSS: <sup>7</sup> Sum and average excluding those countries where data are not available. <sup>8</sup> Statistically not relevant.

Table 10  
**Use of cashless payment instruments**  
 Total number of transactions per inhabitant

	Cheques					Payments by credit/debit cards					Credit transfers				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	2.6	2.7	2.6	2.5	2.5	0.3	0.3	0.4	0.5	0.7	nav	nav	nav	nav	nav
Belgium	9.4	8.5	7.8	6.9	5.8	27.5	33.5	39.3	45.1	50.9	68.5	66.1	70.7	64.1	73.2
Canada	57.7	55.8	56.1	53.7	50.9	65.2	77.9	91.8	104.6	114.0	13.0	15.3	16.6	18.4	18.9
France	81.9	80.4	74.3	74.2	71.2	38.5	43.0	48.3	54.3	60.3	31.1	32.5	34.0	34.6	35.7
Germany <sup>2</sup>	7.9	7.3	5.2	4.8	3.9	6.5	12.1	14.6	16.9	19.2	65.7	75.8	85.6	78.4	84.5
Hong Kong SAR	23.1	20.8	20.3	20.8	19.9	nav	nav	nav	nav	nav	2.1	2.3	2.4	2.5	2.7
Italy	11.4	11.3	11.5	10.4	10.5	4.6	6.0	8.3	10.2	12.7	17.0	16.9	17.4	17.6	17.9
Japan	2.2	2.1	1.9	1.8	1.6	10.1	11.8	12.0	15.8	17.7	8.8	9.0	9.2	9.6	10.0
Netherlands <sup>3</sup>	4.2	3.0	1.7	0.9	0.3	33.6	40.6	47.1	53.3	62.5	67.5	68.5	68.7	71.6	73.7
Singapore <sup>4</sup>	23.1	22.3	23.4	22.8	22.3	17.4	18.7	19.2	21.3	23.4	4.0	4.0	3.5	3.6	4.1
Sweden	2.0	0.5	0.5	0.2	0.2	19.1	24.1	28.8	36.4	45.0	74.6	71.5	80.4	80.6	78.3
Switzerland	1.3	1.1	0.9	1.6	1.0	22.2	24.7	31.1	33.8	38.9	71.0	77.7	81.8	75.7	69.3
United Kingdom	52.4	50.4	48.0	45.2	42.8	44.6	50.0	57.2	63.4	71.0	28.1	29.1	30.2	30.9	32.2
United States <sup>5</sup>	173.7	167.0	160.5	154.3	144.6	62.7	70.8	81.0	93.5	103.7	9.3	10.7	11.6	12.7	13.6
CPSS <sup>6</sup>	79.4	76.6	73.5	70.9	67.5	37.0	42.8	49.1	56.8	63.8	22.9	24.8	26.7	26.5	27.7

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 10 (cont)

**Use of cashless payment instruments**

Total number of transactions per inhabitant

	Direct debits					Card-based e-money					Total <sup>1</sup>				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	2.9	3.0	3.0	3.0	3.1
Belgium	11.6	11.5	13.9	16.2	17.2	0.9	2.8	4.4	5.0	5.9	117.9	122.4	136.3	137.3	153.0
Canada	10.6	11.9	13.2	14.4	15.7	nav	nav	nav	nav	nav	146.5	161.0	177.8	191.2	199.5
France	23.9	26.3	28.7	32.5	33.9	nap	nap	nav	nav	neg	175.4	182.1	185.3	195.6	201.1
Germany <sup>2</sup>	59.3	56.1	58.5	61.2	61.7	0.1	0.2	0.3	0.3	0.4	139.4	151.4	164.2	161.6	169.7
Hong Kong SAR	4.9	5.0	5.1	5.3	5.5	nav	nav	nav	nav	nav	30.0	28.0	27.7	28.6	28.1
Italy	5.0	5.7	8.6	9.9	10.5	neg	neg	neg	neg	neg	38.0	39.9	45.8	48.2	51.7
Japan	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav	21.1	22.9	23.1	27.2	29.3
Netherlands <sup>3</sup>	41.2	46.0	49.7	52.5	54.5	nav	1.1	1.4	1.6	1.9	146.4	159.1	168.5	179.9	192.9
Singapore <sup>4</sup>	6.1	5.3	4.4	4.3	4.6	0.2	6.7	19.5	24.9	24.7	50.8	57.0	70.0	76.9	79.0
Sweden	7.3	8.4	9.6	10.3	11.0	nav	0.2	0.5	0.3	0.2	103.1	104.6	119.7	127.8	134.7
Switzerland	3.5	3.8	4.2	6.4	6.6	nap	0.6	1.5	2.5	2.7	98.0	107.8	119.5	119.9	118.4
United Kingdom	26.8	29.3	31.3	33.6	35.9	nav	nav	nav	nav	nav	151.9	158.8	166.8	173.1	181.9
United States <sup>5</sup>	5.0	5.7	6.1	7.1	8.4	nav	nav	nav	nav	nav	250.8	254.2	259.3	267.3	270.3
CPSS <sup>6</sup>	17.7	18.2	19.6	21.2	22.3	nap <sup>7</sup>	0.5	1.0	1.2	1.0	156.9	162.9	169.9	176.6	182.2

<sup>1</sup> Sum of the available data.Germany: <sup>2</sup> Payments by debit cards in 1997 exclude POZ and ELV procedures.Netherlands: <sup>3</sup> Payments by credit/debit cards include cards with a delayed debit function.Singapore: <sup>4</sup> Interbank transactions only. Payments by credit/debit cards exclude credit card transactions. Credit transfers include large-value transactions (MEPS).United States: <sup>5</sup> A Federal Reserve study of the cheque clearing system, published in August 2002, estimated that the number of cheques paid in the United States was 49,500 million in 1995 and 42,500 million in 2000. Values for other years are derived from these estimates.CPSS: <sup>6</sup> Sum and average excluding those countries where data are not available. <sup>7</sup> Statistically not relevant.

Table 11  
**Relative importance of cashless payment instruments**  
 Percentage of total volume of cashless transactions<sup>1</sup>

	Cheques					Payments by credit/debit cards					Credit transfers				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	91.3	89.8	86.2	82.1	79.4	8.7	10.2	13.8	17.9	20.6	nav	nav	nav	nav	nav
Belgium	8.0	7.0	5.8	5.0	3.8	23.3	27.3	28.9	32.8	33.3	58.1	54.0	51.9	46.7	47.8
Canada	39.4	34.7	31.6	28.1	25.5	44.5	48.4	51.6	54.7	57.1	8.9	9.5	9.3	9.6	9.5
France	46.7	44.1	40.1	37.9	35.4	21.9	23.6	26.1	27.8	30.0	17.7	17.9	18.4	17.7	17.8
Germany <sup>2</sup>	5.7	4.8	3.1	3.0	2.3	4.6	8.0	8.9	10.5	11.3	47.1	50.1	52.1	48.5	49.8
Hong Kong SAR	76.8	74.1	73.2	72.8	70.7	nav	nav	nav	nav	nav	6.9	8.0	8.5	8.7	9.6
Italy	30.0	28.2	25.2	21.7	20.3	12.1	15.1	18.0	21.2	24.6	44.6	42.3	38.0	36.6	34.7
Japan	10.6	9.0	8.2	6.5	5.6	47.9	51.6	51.9	58.2	60.4	41.5	39.4	39.9	35.2	34.0
Netherlands <sup>3</sup>	2.8	1.9	1.0	0.5	0.2	22.9	25.5	27.9	29.6	32.4	46.1	43.0	40.8	39.8	38.2
Singapore <sup>4</sup>	45.5	39.2	33.5	29.6	28.2	34.3	32.8	27.4	27.7	29.6	7.8	7.0	5.0	4.7	5.1
Sweden	2.0	0.4	0.4	0.2	0.2	18.5	23.0	24.1	28.5	33.4	72.4	68.4	67.2	63.1	58.2
Switzerland	1.3	1.0	0.8	1.3	0.8	22.6	22.9	26.0	28.2	32.8	72.5	72.1	68.4	63.1	58.5
United Kingdom	34.5	31.7	28.8	26.1	23.5	29.3	31.5	34.3	36.6	39.0	18.5	18.3	18.1	17.8	17.7
United States <sup>5</sup>	69.3	65.7	61.9	57.7	53.5	25.0	27.9	31.2	34.9	38.3	3.7	4.2	4.5	4.7	5.0
CPSS <sup>6</sup>	51.7	48.1	44.4	41.3	38.1	23.9	26.7	29.4	32.8	35.7	14.9	15.6	16.2	15.4	15.6

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 11 (cont)

**Relative importance of cashless payment instruments**Percentage of total volume of cashless transactions<sup>1</sup>

	Direct debits					Card-based e-money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Belgium	9.8	9.4	10.2	11.8	11.2	0.8	2.3	3.3	3.6	3.8
Canada	7.2	7.4	7.5	7.5	7.8	nav	nav	nav	nav	nav
France	13.6	14.4	15.5	16.6	16.8	nap	nap	nav	nav	neg
Germany <sup>2</sup>	42.6	37.0	35.7	37.8	36.4	neg	0.1	0.2	0.2	0.2
Hong Kong SAR	16.2	17.8	18.3	18.5	19.7	nav	nav	nav	nav	nav
Italy	13.3	14.4	18.8	20.5	20.4	neg	neg	neg	neg	neg
Japan	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Netherlands <sup>3</sup>	28.1	28.9	29.5	29.2	28.2	nav	0.7	0.8	0.9	1.0
Singapore <sup>4</sup>	12.0	9.2	6.3	5.6	5.8	0.4	11.8	27.8	32.4	31.3
Sweden	7.1	8.0	8.0	8.0	8.2	nav	0.2	0.4	0.3	0.1
Switzerland	3.6	3.5	3.5	5.3	5.5	nap	0.5	1.2	2.1	2.3
United Kingdom	17.7	18.5	18.8	19.4	19.7	nav	nav	nav	nav	nav
United States <sup>5</sup>	2.0	2.2	2.4	2.6	3.1	nav	nav	nav	nav	nav
CPSS <sup>6</sup>	9.5	9.5	9.8	10.3	10.4	nap <sup>7</sup>	0.1	0.1	0.2	0.2

<sup>1</sup> Where the total is the sum of the available data.Germany: <sup>2</sup> Payments by debit cards in 1997 exclude POZ and ELV procedures.Netherlands: <sup>3</sup> Payments by credit/debit cards include cards with a delayed debit function.Singapore: <sup>4</sup> Interbank transactions only. Payments by credit/debit cards exclude credit card transactions. Credit transfers include large-value transactions (MEPS).United States: <sup>5</sup> A Federal Reserve study of the cheque clearing system, published in August 2002, estimated that the number of cheques paid in the United States was 49,500 million in 1995 and 42,500 million in 2000. Values for other years are derived from these estimates.CPSS: <sup>6</sup> Average excluding those countries where data are not available. <sup>7</sup> Statistically not relevant.

Table 12  
**Relative importance of cashless payment instruments**  
 Percentage of total value of cashless transactions<sup>1</sup>

	Cheques					Payments by credit/debit cards					Credit transfers				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	99.0	99.3	99.0	99.1	99.1	0.7	0.7	1.0	1.2	1.4	nav	nav	nav	nav	nav
Belgium	2.9	3.2	0.6	0.5	0.6	0.2	0.2	0.1	0.2	0.2	96.7	96.3	98.9	99.0	99.0
Canada	97.0	96.5	21.5	14.5	12.7	0.7	0.8	0.5	0.6	0.5	1.8	2.1	77.5	84.8	86.1
France	3.9	2.6	2.9	2.9	2.4	0.2	0.1	0.2	0.2	0.2	95.1	96.6	96.2	96.2	96.6
Germany	7.9	7.1	3.6	3.1	2.7	0.2	0.3	0.3	0.4	0.4	78.2	78.1	83.2	85.4	84.2
Hong Kong SAR	97.3	94.2	93.2	93.1	90.6	nav	nav	nav	nav	nav	2.3	5.0	6.0	6.1	8.4
Italy	3.3	2.9	3.7	3.2	3.0	0.1	0.1	0.1	0.1	0.1	95.9	96.2	94.6	95.1	95.1
Japan	3.0	2.4	2.7	2.7	3.0	neg	neg	neg	0.1	0.1	96.9	97.5	97.2	97.3	96.9
Netherlands <sup>2</sup>	0.2	0.1	0.1	0.1	neg	1.0	1.2	1.3	1.3	1.4	93.9	93.8	93.4	93.5	93.6
Singapore <sup>3</sup>	5.9	4.9	5.1	4.7	3.6	0.1	0.2	0.2	0.2	0.2	93.7	94.8	94.6	95.0	96.1
Sweden	nav	0.5	0.4	0.3	0.2	1.6	1.9	2.3	2.6	3.2	95.8	94.9	94.3	93.9	93.3
Switzerland	neg	neg	neg	0.1	neg	neg	neg	0.1	0.1	0.1	99.8	99.8	99.8	99.7	99.7
United Kingdom	5.0	4.4	2.8	2.5	2.2	0.3	0.3	0.2	0.2	0.2	93.8	94.4	96.3	96.6	97.0
United States <sup>4</sup>	5.8	5.5	5.6	5.4	4.9	0.2	0.2	0.2	0.3	0.3	93.0	93.3	93.0	93.2	93.8
CPSS <sup>5</sup>	5.6	5.0	4.5	4.3	4.1	0.1	0.1	0.2	0.2	0.2	93.3	93.8	94.3	94.6	94.6

Note: For an explanation of the footnotes refer to the end of the table. Please refer to the individual country tables for detailed explanation.

Table 12 (cont)

**Relative importance of cashless payment instruments**Percentage of total value of cashless transactions<sup>1</sup>

	Direct debits					Card-based e-money				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
Lebanon	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Belgium	0.3	0.3	0.3	0.3	0.3	neg	neg	neg	neg	neg
Canada	0.6	0.7	0.5	0.5	0.6	nav	nav	nav	nav	nav
France	0.8	0.6	0.7	0.8	0.8	nap	nap	nav	nav	neg
Germany	13.7	14.4	12.8	11.1	12.8	neg	neg	neg	neg	neg
Hong Kong SAR	0.4	0.8	0.8	0.8	1.0	nav	nav	nav	nav	nav
Italy	0.8	0.9	1.6	1.6	1.7	neg	neg	neg	neg	neg
Japan	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Netherlands <sup>2</sup>	4.9	4.9	5.2	5.1	5.0	nav	neg	neg	neg	neg
Singapore <sup>3</sup>	0.2	0.2	0.2	0.2	0.2	neg	neg	neg	neg	neg
Sweden	2.5	2.7	3.0	3.2	3.3	nav	neg	neg	neg	neg
Switzerland	0.1	0.1	0.1	0.2	0.2	nap	neg	neg	neg	neg
United Kingdom	1.0	1.0	0.7	0.7	0.6	neg	neg	nav	nav	nav
United States <sup>4</sup>	1.0	1.1	1.2	1.1	1.1	nav	nav	nav	nav	nav
CPSS <sup>5</sup>	0.9	1.0	1.0	1.0	1.1	nap <sup>6</sup>	neg	neg	neg	neg

<sup>1</sup> Where the total is the sum of the available data.Netherlands: <sup>2</sup> Payments by credit/debit cards include cards with a delayed debit function.Singapore: <sup>3</sup> Interbank transactions only. Payments by credit/debit cards exclude credit card transactions. Credit transfers include large-value transactions (MEPS).United States: <sup>4</sup> A Federal Reserve study of the cheque clearing system, published in August 2002, estimated that the number of cheques paid in the United States was 49,500 million in 1995 and 42,500 million in 2000. Values for other years are derived from these estimates.CPSS: <sup>5</sup> Average excluding those countries where data are not available. <sup>6</sup> Statistically not relevant.

Table 13  
**Features of selected interbank funds transfer systems**  
 End of 2001, unless otherwise noted

	Type <sup>1</sup>	Owner/manager <sup>2</sup>	Number of participants		Processing <sup>3</sup>	Settlement <sup>4</sup>	Membership <sup>5</sup>
			Total	of which: direct			
Lebanon							
Clearing House	L+R	CB	60	60	ACH	N	O
BDL/SWIFT	L+R	CB	57	57	M	N	O
Belgium							
ELLIPS	L	B+CB	96	17	RTT	RTGS	O
Clearing House	R	B+CB	94	34	RTT	N	O
CEC	R	B+CB	94	33	RTT	N	O
Canada							
LVTS	L	PA	14	14	RTT	N	O
France							
CH Paris	R	B/PA	331	27	M	N	RM
CH Province	R	CB	267	219	M	N	O
SIT	R	CB+B/PA	677	17	RTT	N	O
CREIC	R	B/CB	28	28	ACH	N	O
TBF	L	CB	646	195	RTT	RTGS	O
PNS	L	CB+B/PA	468	24	RTT	N/BN/RTGS	RM
Germany							
RPS (former DTA)	R	CB	2,325	2,325	ACH	GS	O
RTGS <sup>plus</sup> <sup>9,10</sup>	L	CB	1,612	59	RTT	RTGS	RM
ELS <sup>9</sup>	nap	nap	nap	nap	nap	nap	nap
EAF (former EAF2) <sup>9</sup>	nap	nap	nap	nap	nap	nap	nap
Hong Kong SAR							
HKD CHATS	All value	CMA <sup>11</sup>	134	134	RTT	RTGS	RM
USD CHATS	All value	B	180	65	RTT	RTGS	O
Italy							
BI-REL	L	CB	863	682	RTT	RTGS	RM
Local Clearing	R	CB	124	124	RTT <sup>14</sup>	N	O
Retail	R	CB <sup>15</sup>	nav	209	ACH	N	O

Note: For an explanation of the footnotes refer to the end of the table.

Table 13 (cont)

## Features of selected interbank funds transfer systems

End of 2001, unless otherwise noted

	Type <sup>1</sup>	Owner/manager <sup>2</sup>	Number of participants		Processing <sup>3</sup>	Settlement <sup>4</sup>	Membership <sup>5</sup>
			Total	of which: direct			
Japan							
<i>FXYCS</i>	<i>L</i>	<i>B</i>	244	40	<i>RTT</i>	<i>N/RTGS</i>	<i>RM</i>
<i>BOJ-NET Funds Transfer System</i>	<i>L</i>	<i>CB</i>	383	383	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
Netherlands							
<i>Interpay</i>	<i>R</i>	<i>B</i>	72	72	<i>ACH</i>	<i>N</i>	<i>RM</i>
<i>TOP</i>	<i>L</i>	<i>CB</i>	164	108	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
Singapore							
<i>SGDCCS</i>	<i>R</i>	<i>PA</i>	104	40	<i>ACH</i>	<i>N</i>	<i>O</i>
<i>USDCCS</i>	<i>R</i>	<i>PA</i>	53	31	<i>ACH</i>	<i>GS</i>	<i>O</i>
<i>Interbank GIRO</i>	<i>R</i>	<i>PA</i>	45	41	<i>ACH</i>	<i>N</i>	<i>O</i>
<i>EFTPOS</i>	<i>R</i>	<i>B</i>	5	5	<i>RTT</i>	<i>N</i>	<i>RM</i>
<i>MEPS</i>	<i>L</i>	<i>CB</i>	130	86	<i>RTT</i>	<i>RTGS</i>	<i>O</i>
Sweden							
<i>K-RIX</i>	<i>L</i>	<i>CB</i>	20	20	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
<i>E-RIX</i>	<i>L</i>	<i>CB</i>	15	15	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
<i>Bankgirot</i>	<i>R</i>	<i>B</i>	21	21	<i>ACH</i>	<i>N</i>	<i>O</i>
<i>Dataclearing</i>	<i>R</i>	<i>B</i>	21	21	<i>ACH</i>	<i>N</i>	<i>O</i>
<i>Postgirot</i> <sup>21</sup>	<i>R</i>	<i>B</i>	1,200,000	1,200,000	<i>ACH</i>	<i>GS</i>	<i>O</i>
Switzerland							
<i>SIC</i>	<i>L+R</i>	<i>B+CB</i>	313	313	<i>RTT</i>	<i>RTGS</i>	<i>O</i> <sup>23</sup>
<i>DTA/LSV</i>	<i>R</i>	<i>B</i>	155	155	<i>ACH</i>	<i>GS</i>	<i>O</i> <sup>23</sup>
United Kingdom							
<i>CHAPS Sterling</i>	<i>L</i>	<i>B+CB</i>	369	13	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
<i>CHAPS Euro</i> <sup>24</sup>	<i>L</i>	<i>B+CB</i>	85	20	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>
<i>BACS</i>	<i>R</i>	<i>B</i>	62,000	14	<i>ACH</i>	<i>N</i>	<i>RM</i>
<i>Cheque/credit</i>	<i>R</i>	<i>B</i>	516	12	<i>M</i>	<i>N</i>	<i>RM</i>
United States							
<i>Fedwire</i>	<i>L</i>	<i>CB</i>	8,110 <sup>27</sup>	8,110 <sup>27</sup>	<i>RTT</i>	<i>RTGS</i>	<i>O</i>
<i>CHIPS</i> <sup>26</sup>	<i>L</i>	<i>B</i>	58	58	<i>RTT</i>	<i>N/BN</i>	<i>RM</i>
European Union							
<i>EURO1</i>	<i>L</i>	<i>B</i>	73	73	<i>RTT</i>	<i>SOS</i> <sup>28</sup>	<i>RM</i>
<i>TARGET</i> <sup>29</sup>	<i>L</i>	<i>CB</i>	3,888	1,579	<i>RTT</i>	<i>RTGS</i>	<i>RM</i>

Note: For an explanation of the footnotes refer to the end of the table.

Table 13 (cont)  
**Features of selected interbank funds transfer systems**  
 End of 2001, unless otherwise noted

	Degree of centralisation <sup>6</sup>	Pricing <sup>7</sup>	Closing time for same day transactions (local time)	Number of transactions (thousands)		Value of transactions (USD billions) <sup>8</sup>		Ratio of transactions value to GDP (at annual rate)	
				2000	2001	2000	2001	2000	2001
Lebanon									
Clearing House	D	V	12:30 <sup>a</sup>	10,754	10,908	26	27	1.6	1.6
BDL/SWIFT	C	V	15:00-16:00 <sup>b</sup>	208	236	53,347	59,902	9.1	11.5
Belgium									
ELLIPS	C	F	18:00	1,780	1,842	11,720	12,818	51.3	56.3
Clearing House	D	V	15:00	4,190	3,528	97	80	0.4	0.3
CEC	C	F	15:00	885,220	919,044	447	455	2.0	2.0
Canada									
LVTS	C	F	18:30	3,544	3,740	17,105	18,061	24.5	26.1
France									
CH Paris	C	F	nap	682,210	677,765	669	683	0.5	0.5
CH Province	D	N	nap	2,771,691	2,469,057	1,071	883	0.8	0.7
SIT	C	F	13:30	6,485,332	7,131,087	2,264	2,187	1.7	1.7
CREIC	D	V	nap	307,724	270,165	24	21	neg	neg
TBF domestic	C	F	18:00	3,025	3,801	62,765	78,365	48.1	59.8
PNS	C	F	16:00	5,515	8,004	20,117	19,977	15.4	15.3
Germany									
RPS (former DTA)	D	F	nap	2,226,589	2,197,487	2,067	1,971	1.1	1.1
RTGSplus <sup>9, 10</sup>	C	F	18:00	nap	4,829	nap	17,392	nap	9.4
ELS <sup>9</sup>	nap	nap	18:00	21,534	19,031	48,158	44,109	25.8	23.8
EAF (former EAF2) <sup>9</sup>	nap	nap	nap	12,988	11,014	38,237	31,343	20.5	16.9
Hong Kong SAR									
HKD CHATS	C	F	17:30 <sup>12</sup>	3,410	3,470	11,678	11,134	70.6	67.9
USD CHATS	C	F	17:30	185 <sup>13</sup>	691	242 <sup>13</sup>	931	4.5	5.7
Italy									
BI-REL	C	F	18:00	10,401	10,247	25,584	24,291	23.9	22.3
Local Clearing	C	V	12:00	109,438	105,360	663	641	0.6	0.6
Retail	C	F	nap <sup>16</sup>	1,005,362	1,269,828	1,416	1,551	1.3	1.4

Note: For an explanation of the footnotes refer to the end of the table.

Table 13 (cont)

## Features of selected interbank funds transfer systems

End of 2001, unless otherwise noted

	Degree of centralisation <sup>6</sup>	Pricing <sup>7</sup>	Closing time for same day transactions (local time)	Number of transactions (thousands)		Value of transactions (USD billions) <sup>8</sup>		Ratio of transactions value to GDP (at annual rate)	
				2000	2001	2000	2001	2000	2001
Japan									
<i>FXYCS</i>	C	V <sup>17</sup>	13:45(N)/17:00(G)	9,298	9,564	57,961	56,587	12.2	13.6
<i>BOJ-NET Funds Transfer System</i>	C	V <sup>17</sup>	17:00	4,715	5,046	328,430	156,640	69.0	37.5
Netherlands									
<i>Interpay</i>	C	F	17:00	2,328,445	2,558,284	1,342	1,409	3.6	3.7
<i>TOP</i>	C	F	18:00	3,725	4,023	16,552	18,514	44.6	48.2
Singapore									
<i>SGDCCS</i>	C	V	16:45 <sup>18</sup>	91,259	91,599	262	233	2.9	2.7
<i>USDCCS</i>	C	V	15:30	390	399	12	11	0.1	0.1
<i>Interbank GIRO</i>	C	V	12:00 <sup>19</sup>	29,980	33,640	42	45	0.5	0.5
<i>EFTPOS</i>	C	V	23:59	76,932	87,728	2.7	3.1	neg	neg
<i>MEPS</i>	C	V	18:30 <sup>20</sup>	1,908	2,065	5,542	6,447	60.3	75.3
Sweden									
<i>K-RIX</i>	C	F	17:00	510	655	11,689	10,962	51.1	52.3
<i>E-RIX</i>	C	F	17:00	62	70	1,582	1,265	6.9	6.0
<i>Bankgirot</i>	C	F	. <sup>22</sup>	351,410	345,200	407	376	1.8	1.8
<i>Dataclearing</i>	C	F	. <sup>22</sup>	78,217	66,910	147	107	0.6	0.5
<i>Postgirot</i> <sup>21</sup>	C	F	. <sup>22</sup>	454,000	450,000	445	367	1.9	1.8
Switzerland									
<i>SIC</i>	C	F	16:15	149,500	161,200	26,425	26,905	110.0	109.4
<i>DTA/LSV</i>	C	F	09:00	105,900	103,700	228	225	0.9	0.9
United Kingdom									
<i>CHAPS Sterling</i>	C	F	17:00	21,705	23,962	74,464	76,189	51.7	53.6
<i>CHAPS Euro</i> <sup>24</sup>	C	F	17:00	3,250	2,580	38,358	26,844	26.6	18.9
<i>BACS</i>	C	F	. <sup>25</sup>	3,316,213	3,527,340	2,912	3,119	2.0	2.2
<i>Cheque/credit</i>	D	F	. <sup>25</sup>	2,033,000	1,940,000	2,202	2,073	1.5	1.5
United States									
<i>Fedwire</i>	C	F	18:30	108,300	112,500	379,756	423,867	38.7	42.0
<i>CHIPS</i> <sup>26</sup>	C	F	17:00	59,800	60,400	292,147	311,707	29.7	30.9

Note: For an explanation of the footnotes refer to the end of the table.

Table 13 (cont)  
**Features of selected interbank funds transfer systems**  
 End of 2001, unless otherwise noted

	Degree of centralisation <sup>6</sup>	Pricing <sup>7</sup>	Closing time for same day transactions (local time)	Number of transactions (thousands)		Value of transactions (USD billions) <sup>8</sup>		Ratio of transactions value to GDP (at annual rate)	
				2000	2001	2000	2001	2000	2001
European Union									
EURO1	C	F	16:00	24,692	28,633	49,644	58,101	nap	nap
TARGET <sup>29</sup>	D	F	18:00	47,980	53,664	263,291	368,469	nap	nap

<sup>1</sup> L = large-value system; R = retail system. <sup>2</sup> B = bank(s); CB = central bank(s); PA = payment association. <sup>3</sup> M = manual; ACH = automated clearing house (offline); RTT = real-time transmission. <sup>4</sup> N = multilateral netting; BN = bilateral netting; RTGS = real-time gross settlement; GS = other gross settlement. <sup>5</sup> O = open membership (any bank can apply); RM = restricted membership (subject to criteria). <sup>6</sup> Degree of centralisation: C = centralised (one processing centre where all settlement instructions are processed and accounts settled); D = decentralised (presence of more than one such processing centre). <sup>7</sup> Prices charged to participants: F = full cost (including investments); V = variable costs; S = symbolic cost (below variable cost); N = no cost. <sup>8</sup> Converted at yearly average exchange rates.

Lebanon: <sup>a</sup> Monday-Thursday for operations in LBP; 13:30 for USD and 14:00 for other currencies. Friday-Saturday 11:00 for LBP; 12:00 for USD and 12:30 for other currencies. <sup>b</sup> Monday-Thursday 15:00 for outgoing transfers and for incoming domestic transfers; 16:00 for other incoming transfers. Friday-Saturday 11:00.

Germany: <sup>9</sup> RTGS<sup>plus</sup>, the new RTGS system, opened for business on 5 November 2001. On the same day, ELS (the former RTGS system) and EAF were closed down. For the time being, ELS serves as a procedure for accessing RTGS<sup>plus</sup>. <sup>10</sup> The number of participants solely includes direct participants and indirect participants of the Deutsche Bundesbank. Others, which are addressable via RTGS<sup>plus</sup>, are not included.

Hong Kong: <sup>11</sup> Central Monetary Authority. <sup>12</sup> 12:00 on Saturdays. <sup>13</sup> From 21 August.

Italy: <sup>14</sup> Transactions can also be submitted on floppy disk. <sup>15</sup> System managed by SIA (Interbank Company for Automation) in the name and on behalf of the Bank of Italy. <sup>16</sup> Except for credit transfers entered before 10:00 which are settled on the same day.

Japan: <sup>17</sup> Prices are set on the principle that the institutions that are to benefit from online processing should pay the relevant fees.

Singapore: <sup>18</sup> 13:15 on Saturdays. <sup>19</sup> 09:00 on Saturdays. <sup>20</sup> 14:45 on Saturdays.

Sweden: <sup>21</sup> Postgirot is a "quasi system", ie transfer between accounts in special purpose bank. Non-banks can have accounts. <sup>22</sup> No same day transactions.

Switzerland: <sup>23</sup> With restriction criteria for remote members.

United Kingdom: <sup>24</sup> Quantitative figures for 2000 include domestic and all cross-border (inward and outward) payments across TARGET. Figures for 2001 exclude inward cross-border payments. <sup>25</sup> No same day transactions.

United States: <sup>26</sup> In January 2001, CHIPCo converted CHIPS from an end-of-day, multilateral net settlement system to a real-time final settlement system that continuously matches, nets and settles payment orders during the operating day. <sup>27</sup> Number of depository institutions that used the Fedwire Funds Transfer Service in 2001. Other Fedwire Funds Transfer participants not included here, are: the US Treasury and any entity specifically authorised by federal statute to use the Reserve Banks as fiscal agents or depositories; entities designated by the Secretary of the Treasury; foreign central banks, foreign monetary authorities, foreign governments and certain international organisations.

European Union: <sup>28</sup> The legal structure of EURO1 is based on the Single Obligation Structure (SOS), whereby on each settlement day, at any given time, each participant will have only one single payment obligation or claim with respect to the community of the other participants as joint creditors/debtors, which will be settled at the end of the day. In accordance with the SOS, no bilateral payments, claims or obligations between participants will be created by the processing of payments in the system. Nor will there be any form of setoff, novation or netting resulting from the continuous adjustment of the participants' single claim or obligation. <sup>29</sup> The RTGS systems of the countries which have adopted the euro and the ECB payment mechanism are integral parts of the TARGET system. The euro RTGS systems of Denmark, Greece, Sweden and the United Kingdom were allowed to connect to TARGET on the basis of a decision taken by the Governing Council of the ECB in July 1998. On 1 January 2001 Greece joined the euro area. The HERMES Payment System in drachmas and the EURO-HERMES System were unified into a single HERMES Payment System. The figure of TARGET participants is based on a survey of direct and indirect participants. The previously published number of indirect participants was an estimate. In addition, there is a substantial change in the number of direct participants due to the fact that EAF closed down when RTGS plus opened for business on 5 November 2001.

Table 14  
**Operating hours of selected large-value interbank funds transfer systems**  
 End of 2001

System	Gross or net	Opening/closing time for same day value (local time)	Settlement finality (local time)	Cutoff for all third- party payment orders (local time)	Cutoff for international correspondents' payment orders (local time)	<i>Memo item: standard money market hours (local time)</i>
Lebanon Clearing Houses BDL/SWIFT	<i>Net</i> <i>Gross</i>	11:00-12:30 <sup>a</sup> 09:00-15:00 <sup>b</sup>	12:30 15:00-16:00	<i>none</i> 15:00-16:00	<i>none</i> 15:00-16:00	
Belgium ELLIPS	<i>Gross</i>	07:00-18:00	07:00-18:00	17:00	18:00	07:00-18:00
Canada <sup>1</sup> LVTS	<i>Net</i>	07:00-18:30 <sup>2</sup>	19:30	18:00	18:00	<i>nap</i> <sup>3</sup>
France TBF	<i>Gross</i>	07:00-18:00	<i>real-time</i>	17:00	<i>nap</i>	09:00-17:00
PNS	<i>Gross/Net</i>	08:00-16:00	<i>real-time</i>	16:00	<i>nap</i>	09:00-17:00
Germany <sup>4</sup> RTGS <sup>plus</sup>	<i>Gross</i>	07:00-18:00	07:00-18:00	17:00	<i>nap</i>	08:30-18:00
EAF (former EAF2)	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>
ELS	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>	<i>nap</i>
Hong Kong SAR HKD CHATS	<i>Gross</i>	09:00-17:30 <sup>5</sup>	09:00-17:30 <sup>5</sup>	17:00	17:30	09:00-17:30
USD CHATS	<i>Gross</i>	09:00-17:30	09:00-17:30	17:00	17:30	09:00-17:30
Italy BI-REL	<i>Gross</i>	07:00-18:00	07:00-18:00	17:00	<i>nap</i>	07:00-18:00
Japan FXYES	<i>Net</i> <i>Gross</i>	09:00-13:45 09:00-17:00	14:30 09:00-17:00	13:45 17:00	13:45 17:00	09:00-17:00 09:00-17:00
BOJ-NET Funds Transfer System	<i>Gross</i>	09:00-17:00	09:00-17:00	14:00	14:00	09:00-17:00
Netherlands TOP	<i>Gross</i>	07:00-18:00	07:00-18:00	17:00	17:00	07:00-18:00

Note: For an explanation of the footnotes refer to the end of the table.

Table 14 (cont)  
**Operating hours of selected large-value interbank funds transfer systems**  
 End of 2001

System	Gross or net	Opening/closing time for same day value (local time)	Settlement finality (local time)	Cutoff for all third-party payment orders (local time)	Cutoff for international correspondents' payment orders (local time)	Memo item: standard money market hours (local time)
Singapore <i>MEPS</i>	Gross	06:00-20:00 <sup>6,7</sup>	09:00-18:30 <sup>8,9</sup>	18:30 <sup>10,11</sup>	nap <sup>12</sup>	09:00-18:30 <sup>7</sup>
Sweden <i>K-RIX</i>	Gross	07:00-17:00	07:00-17:00	17:00	17:00	09:00-16:15
<i>E-RIX</i>	Gross	07:00-18:00	07:00-18:00	17:00	18:00	09:00-16:15
Switzerland <i>SIC</i>	Gross	18:00-16:15 <sup>13</sup>	18:00-16:15	15:00	08:00	09:00-16:00
United Kingdom <i>CHAPS Sterling</i>	Gross	06:00-17:00	—	16:00	16:00	07:00-16:00
<i>CHAPS Euro</i>	Gross	06:00-17:00	—	16:00	16:00	—
United States <sup>14</sup> <i>Fedwire</i>	Gross	00:30-18:30	00:30-18:30	18:00	17:00	08:30-18:30 <sup>16</sup>
<i>CHIPS</i>	Net	00:30-17:00	intra-day <sup>15</sup>	16:30	16:30	08:30-18:30 <sup>16</sup>
European Union <i>EURO1</i>	Net	07:30-16:00	after 16:00	16:00	16:00	07:00-18:00
<i>TARGET</i>	Gross	07:00-18:00	real-time	17:00	nap	07:00-18:00

Lebanon: <sup>a</sup> Times apply to LBP Monday-Thursday. On Friday and Saturday opening time is 09:30, and closing time (and settlement finality) 11:00 for LBP, 12:00 for USD and 12:30 for other currencies. <sup>b</sup> Times apply to outgoing transfers and incoming domestic transfers Monday-Thursday. Closing time for other incoming transfers Monday-Thursday is 16:00. Closing time on Friday-Saturday is 11:00. Closing times are also the times for settlement and finality and cutoff for all third-party payment orders.

Canada: <sup>1</sup> Local times are Eastern time. <sup>2</sup> The initialisation period, for collateral pledging/valuation, setting of bilateral limits, etc, begins at 07:00. The payment message exchange period begins at 08:00. <sup>3</sup> No standard hours.

Germany: <sup>4</sup> RTGS<sup>plus</sup>, the new RTGS system, opened for business on 5 November 2001. On the same day, ELS (the former RTGS system) and EAF were closed down. For the time being, ELS serves as a procedure for accessing RGTS<sup>plus</sup>.

Hong Kong: <sup>5</sup> To 12:00 on Saturdays.

Singapore: <sup>6</sup> The initialisation period for collateral pledging/valuation, setting of bilateral limits, etc begins at 07:00. The payment message exchange period begins at 08:00. <sup>7</sup> To 15:00 on Saturdays. <sup>8</sup> For net settlement systems. <sup>9</sup> To 14:30 on Saturdays. <sup>10</sup> For same day clearing. <sup>11</sup> To 14:45 on Saturdays. <sup>12</sup> MEPS is used for domestic payment orders only.

Switzerland: <sup>13</sup> The system is open for input 24 hours a day. Settlement services are limited by the indicated opening and closing times. A value day starts at 18:00 local time on the previous business day and ends at 16:15 on the value day. Third-party payments may be entered for same day settlement until 15:00. Between 15:00 (cutoff 1) and 16:00 (cutoff 2) only cover (bank-to-bank) payments are accepted for same day settlement. From 16:00 to 16:15 transactions are restricted to the processing of lombard credits (collateralised loans from the Swiss National Bank at a penalty rate).

United States: <sup>14</sup> Local times are Eastern time. <sup>15</sup> Trading occurs among dealers for funds on deposit at Federal Reserve Banks (ie federal funds) as early as 06:30. <sup>16</sup> Payments over CHIPS become final on completion of settlement, which occurs throughout the day. Rules are designed to ensure that settlement takes place no later than 18:00.

Table 15  
**Features of selected securities settlement systems**  
 End of 2001

	Lebanon		Belgium			Canada	
<b>Name of system</b>	<b>BDL</b>	<b>Midclear</b>	<b>NBB SSS</b>	<b>Euronext-CIK</b>	<b>Euroclear</b>	<b>SSS/BBS</b>	<b>DCS</b>
Type of securities <sup>1</sup>	G, O	S, O <sup>a</sup>	G, O	E, O	G, E, O	S, B, O	B, G, O
Owner/manager <sup>2</sup>	CB	CB	CB	B	B	B, SE, O	B, SE, O
Number of participants	96	88	130	104	1,750	107	82
<i>Of which: direct participants</i>	96	88	130	104	1,750	<i>nav</i>	6
Settlement of cash leg <sup>3</sup>	G	N	G	G	G/N	N	N
Securities settlement (delivery) <sup>3</sup>	G	N	G	N	G/N	N	G
Delivery lag (T+n)	T+0 till T+5 <sup>b</sup>	T+3	T+2, T+3 <sup>5</sup>	T+3	T+3, T+n (OTC)	T+3	T+0, T+1 <sup>7</sup>
DVP mechanism	<sup>c</sup>	Yes	DVP1	DVP1	DVP1	3	2
Intraday finality	nap	No	Yes	Yes	Yes	No	Yes
Central securities depository	CB	Midclear	NBB	CIK	Euroclear (Eurobonds) + Others	CDS	CDS
Cash settlement agent <sup>2</sup>	CB	CB	NBB	NBB	Euroclear/NBB	B	CB
Number of transactions (thousands)	13.8 <sup>d</sup>	20.35	145	356	161,000 (before netting) <sup>6</sup>	31,400	1,780
Value of transactions (USD billions) <sup>4</sup>	44.1 <sup>d</sup>	0.10	2,483	90	117,000 <sup>6</sup>	1,520	18,570
Ratio of transactions value to GDP (at annual rate)	2.67	0.01	10.9	0.4	nap	2.2	26.8

Note: For an explanation of the footnotes refer to the end of the table.

Table 15 (cont)  
**Features of selected securities settlement systems**  
 End of 2001

Name of system	France		Germany	Hong Kong SAR	
	RGV	RELIT	Clearstream Banking Frankfurt (CBF)	CCASS	CMU
Type of securities <sup>1</sup>	B, C, G, O	B, C, G, O, S	G, S, B, O	S, O	G, O
Owner/manager <sup>2</sup>	Euroclear France	Euroclear France	SE	SE	CMA <sup>10</sup>
Number of participants	658 <sup>8</sup>		422	527	166 <sup>11</sup>
Of which: direct participants	331 <sup>8</sup>		422	527	166 <sup>11</sup>
Settlement of cash leg <sup>3</sup>	RTGS	N	RTGS, N	G/N	G/N
Securities settlement (delivery) <sup>3</sup>	RTGS	GS	RTGS, G	G/N	G/N
Delivery lag (T+n)	from T to T+100	from T to T+30	T+0 to T+40	T+2	T+0
DVP mechanism	DVP1	DVP2	DVP1 DVP2/DVP3 <sup>9</sup>	Yes	Yes
Intraday finality	Yes	No	Yes	No	Yes
Central securities depository	Euroclear France		CBF	CCASS	CMU
Cash settlement agent <sup>2</sup>	CB		CB	B	CMA <sup>10</sup>
Number of transactions (thousands)	31,400 <sup>8</sup>		105,121	29,361	43
Value of transactions (USD billions) <sup>4</sup>	39,047 <sup>8</sup>		nav	989	683
Ratio of transactions value to GDP (at annual rate)	29.8 <sup>8</sup>		nav	6.0	4.2

Note: For an explanation of the footnotes refer to the end of the table.

Table 15 (cont)

## Features of selected securities settlement systems

End of 2001

Name of system	Italy			Japan		Netherlands
	LDT	EXPRESS	Monte Titoli	BOJ-NET JGB Services	JASDEC <sup>16</sup>	Necigef
Type of securities <sup>1</sup>	G, S, B, O	G, S, B, O	G, S, B, O	G	S	G, B, S
Owner/manager <sup>2</sup>	CB	Monte Titoli	Monte Titoli	CB	B, SE, O	Euroclear
Number of participants	281	255 <sup>13</sup>	1,867	360 (Book-entry System) / 398 (Registration System)	290	56
<i>Of which: direct participants</i>	281	116 <sup>13</sup>	653	360/398	290	56
Settlement of cash leg <sup>3</sup>	N	G	nap	RTGS	G/N	RTGS
Securities settlement (delivery) <sup>3</sup>	N	G	G	RTGS	G/N	RTGS
Delivery lag (T+n)	G, B : T+3 <sup>12</sup> S, O : T+5	T	T	T+0 to T+3 <sup>15</sup>	T+3	T+3
DVP mechanism	DVP3	DVP1	No	DVP1	DVP3 <sup>17</sup>	DVP1
Intraday finality	No	Yes	nap	Yes	Yes	Yes
Central securities depository	Monte Titoli	Monte Titoli	Monte Titoli	CB	JASDEC	Necigef
Cash settlement agent <sup>2</sup>	CB	CB	nap	CB	CB, B	CB, B
Number of transactions (thousands)	42,350	97	1,830 <sup>14</sup>	2,838/23	36,257	3,073
Value of transactions (USD billions) <sup>4</sup>	26,090	1,009	nav	85,650/122	nav	858
Ratio of transactions value to GDP (at annual rate)	24.0	0.9	nav	20.5/neg	nav	2.2

Note: For an explanation of the footnotes refer to the end of the table.

Table 15 (cont)  
**Features of selected securities settlement systems**  
 End of 2001

Name of system	Singapore			Sweden		Switzerland
	CDP	DCSS	MEPS-SGS	Stockholmsbörsen	VPC	SECOM
Type of securities <sup>1</sup>	E,O	O	G	O	G, E, O	G, B, S, O
Owner/manager <sup>2</sup>	SE	SE	CB	O	B, O	B, O
Number of participants	85	50	130	72	47	433
<i>Of which: direct participants</i>	31	50	86	72	47	433
Settlement of cash leg <sup>3</sup>	N	G	RTGS	N	G/N	G
Securities settlement (delivery) <sup>3</sup>	G	G	G	N	G	G
Delivery lag (T+n)	T+3	T+n <sup>19</sup>	T+0	T+3	T+2, T+3	T+3
DVP mechanism	DVP2	DVP1	DVP1	No	DVP2/ DVP3/DVP1	DVP1
Intraday finality	Yes	Yes	Yes	Yes	Yes	Yes
Central securities depository	CDP	CDP	CB	OM	VPC	SIS SegalInterSettle
Cash settlement agent <sup>2</sup>	B	CB	CB	CB	CB	CB
Number of transactions (thousands)	93,066,000 <sup>18</sup>	4.5	47	66,575	7,740	13,400
Value of transactions (USD billions) <sup>4</sup>	74	5	262	386	8,492	3,822
Ratio of transactions value to GDP (at annual rate)	0.9	neg	3.1	1.8	40.5	15.5

Note: For an explanation of the footnotes refer to the end of the table.

Table 15 (cont)

## Features of selected securities settlement systems

End of 2001

Name of system	United Kingdom		United States	
	CREST	CMO	NBES <sup>20</sup>	DTC
Type of securities <sup>1</sup>	G, B, S, O	G, C, O	G	S, O, B
Owner/manager <sup>2</sup>	B, CB, SE, O	B, CB, O	CB	B, SE, O
Number of participants	41,227	64	1,888 <sup>21</sup>	475
<i>Of which: direct participants</i>	<i>nap</i>	<i>nap</i>	1,888 <sup>21</sup>	475
Settlement of cash leg <sup>3</sup>	RTGS	N	RTGS	N
Securities settlement (delivery) <sup>3</sup>	RTGS	RTGS	RTGS	G
Delivery lag (T+n)	T+3	T	T, T+1 <sup>22</sup>	T+3 <sup>23</sup>
DVP mechanism	DVP1	DVP2	DVP1	DVP2
Intraday finality	Yes	Yes	Yes	No
Central securities depository	nap	CMO	CB	DTC
Cash settlement agent <sup>2</sup>	B, CB	CB	CB	DTC
Number of transactions (thousands)	73,400	200	15,000	350,000
Value of transactions (USD billions) <sup>4</sup>	74,909	3,247	212,300	89,000
Ratio of transactions value to GDP (at annual rate)	52.7	2.3	21.1	8.8

Note: For an explanation of the footnotes refer to the end of the table.

Table 15 (cont)

**Features of selected securities settlement systems**

End of 2001

<sup>1</sup> B = bonds; C = CDs; G = government securities; S = shares; O = others. <sup>2</sup> B = bank(s); CB = central bank(s); SE = stock exchange; O = other. <sup>3</sup> G = gross; N = net; RTGS = real-time gross settlement. <sup>4</sup> Converted at yearly average exchange rates.

Lebanon: <sup>a</sup> Other = debt securities. <sup>b</sup> Depending on the type of operation. <sup>c</sup> The technical framework ensures that for operations with BDL as a counterparty there is DVP. However, for secondary interbank operations, settled at BDL, there is no system yet for matching of settlement instructions and consequently no DVP. <sup>d</sup> Mainly TBs transactions.

Belgium: <sup>5</sup> For Treasury bills, T+2; for bonds, T+3. <sup>6</sup> Including Euroclear France.

Canada: <sup>7</sup> Although all securities have the potential for T+0 delivery, money market mutual funds tend to be T+1.

France: <sup>8</sup> RGV and RELIT combined.

Germany: <sup>9</sup> Mixture of DVP 2 + DVP 3 (securities disposition on a gross basis without finality until final settlement of net cash position).

Hong Kong: <sup>10</sup> Central Monetary Authority. <sup>11</sup> Recognised dealer for Exchange Fund Bills and Notes.

Italy: <sup>12</sup> For government bills, T+2. <sup>13</sup> Number of accounts. <sup>14</sup> Free of payment (FOP) transfers not including multilateral net balances from LdT.

Japan: <sup>15</sup> T+3 is the norm for outright transactions. Most repo transactions are settled on a T+2 to T+3 basis. Settlement for the BOJ's open market operations takes place on a T+0 to T+3 basis.

<sup>16</sup> End-March 2002. <sup>17</sup> For stocks traded on the Tokyo Stock Exchange and the Osaka Securities Exchange.

Singapore: <sup>18</sup> Number of securities cleared. <sup>19</sup> By mutual agreement between counterparties.

United States: <sup>20</sup> NBES is the Federal Reserve's National Book-Entry System. <sup>21</sup> Number of depository institutions that used the Federal Reserve's National Book-Entry System in 2001. Other participants not included here, are: the US Treasury and any entity specifically authorised by federal statute to use the Reserve Banks as fiscal agents or depositories; entities designated by the Secretary of the Treasury; foreign central banks, foreign monetary authorities, foreign governments and certain international organisations. <sup>22</sup> Securities are settled on a same-day basis within the Federal Reserve's National Book-Entry System. The market convention for the settlement of repurchase agreements is T+0. The convention for government securities is T+1. <sup>23</sup> The market convention for the settlement of corporate equities is T+3.

Table 16

## Direct participants in CPSS large-value payment systems

End of 2001

	Lebanon	Belgium	Canada	France	Germany	Hong Kong SAR		Italy	Japan
<b>Name of system</b>	<b>BDL</b>	<b>nap</b>	<b>LVTS</b>	<b>PNS</b>	<b>EAF<sup>1</sup></b>	<b>HKD CHATS</b>	<b>USD CHATS</b>	<b>nap<sup>3</sup></b>	<b>FXYCS</b>
Direct participants	69		14	24	nap	134	65		40
Credit institutions	68 <sup>a</sup>		13	23	nap	134	64		40
Central bank	1		1	nap	nap	1 <sup>2</sup>	1		0
Non-banks	34		0	1	nap	0	0		0
<i>Of which:</i>									
<i>Public authorities</i>	1			0					
<i>Postal administration</i>	nap			1					
<i>Supervised financial institutions</i>	33			0					

	Netherlands	Singapore	Sweden	Switzerland	United Kingdom	United States		European Union
<b>Name of system</b>	<b>nap</b>	<b>MEPS</b>	<b>nap</b>	<b>nap</b>	<b>nap</b>	<b>Fedwire</b>	<b>CHIPS</b>	<b>EURO1</b>
Direct participants		86				8,110	58	73
Credit institutions		85				nav	nav	73
Central bank		1				nav	nav	0
Non-banks		0				nav	nav	nap
<i>Of which:</i>								
<i>Public authorities</i>								
<i>Postal administration</i>								
<i>Supervised financial institutions</i>								

Lebanon: <sup>a</sup> Includes eight medium- and long-term banks.Germany: <sup>1</sup> EAF was closed down when RTGS<sup>plus</sup>, the new RTGS system, opened for business on 5 November 2001.Hong Kong: <sup>2</sup> The central bank is not a direct participant.Italy: <sup>3</sup> The only large-value payment system in Italy is BI-REL. For details, please see Table 18.

Table 17  
**Direct participants in CPSS retail interbank funds transfer systems**  
 End of 2001

	Lebanon	Belgium		Canada	France	Germany		Hong Kong SAR
<b>Name of system</b>	<b>Clearing House</b>	<b>Clearing House</b>	<b>ACSS</b>	<b>ACSS</b>	<b>CH and CREIC</b>	<b>SIT</b>	<b>RPS</b>	<b>nap</b>
Direct participants	61	34	12	12	246	17	2,325	
Credit institutions	60	31	11	11	242	15	2,324	
Central bank	1	1	1	1	1	1	1	
Non-banks	0	2	0	0	3	1	0	
<i>Of which:</i>								
<i>Public authorities</i>	0	1			2	0		
<i>Postal administration</i>	nap	1			1	1		
<i>Supervised financial institutions</i>	0	0			0	0		

	Italy		Japan		Netherlands	Singapore		
<b>Name of system</b>	<b>BI-COMP</b>		<b>Zengin system</b>	<b>Tokyo Clearing House</b>	<b>Interpay</b>	<b>SGDCCS</b>	<b>IBG</b>	<b>EFTPOS</b>
	<b>Local Clearing</b>	<b>Retail</b>						
Direct participants	124	209	154	121	72	40	41	5
Credit institutions	121 <sup>1</sup>	207 <sup>2</sup>	154	119	72	39	41	5
Central bank	1	1	0	1	0	1	0	0
Non-banks	2	1	0	1	0	0	0	0
<i>Of which:</i>								
<i>Public authorities</i>	1	0		0				
<i>Postal administration</i>	1	1		1				
<i>Supervised financial institutions</i>	0	0		0				

Note: For an explanation of the footnotes refer to the end of the table.

Table 17 (cont)

**Direct participants in CPSS retail interbank funds transfer systems**

End of 2001

Name of system	Sweden			Switzerland	United Kingdom		United States
	Bankgirot	Dataclearing	Postgirot	DTA/LSV	BACS	Cheque and credit clearing	nav
Direct participants	21	21	1,200,000	155	14	12	nav
Credit institutions	21	21	0	155	13	11	nav
Central bank	0	0	0	0	1	1	nav
Non-banks	0	0	1,200,000	0	0	0	nav
<i>Of which:</i>							
<i>Public authorities</i>			1,200,000				
<i>Postal administration</i>			0				
<i>Supervised financial institutions</i>			0				

Italy: <sup>1</sup> Of which: two branches of other EU banks. <sup>2</sup> Of which: 15 branches of other EU banks and six branches of non-EU banks.

Table 18  
**Access criteria for other CPSS large-value payment systems**  
 End of 2001

	Lebanon	Belgium	Canada	France	Germany	Hong Kong SAR	Italy	Japan
<b>Name of system</b>	<b>BDL</b>	<b>nap</b>	<b>LVTS</b>	<b>PNS</b>	<b>EAF<sup>1</sup></b>	<b>USD RTGS</b>	<b>nap<sup>3</sup></b>	<b>FXYCS</b>
Access criteria	+		+	+	nap	+		+
Written rules	+		+	+	nap	+		+
Minimum level of data or ratios representative of financial strength	-		-	-	nap	+		+
Minimum number of transactions	-		-	-	nap	-		+
Payment of an entry fee	-		+	+	nap	+ <sup>2</sup>		+
Approval from the owner/manager or the direct participants	+		+	+	nap	+		+
Approval from the local central bank	+		-	+	nap	+		+
Technical requirements	+		+	+	nap	+ <sup>2</sup>		+
Removal rules	+		+	+	nap	-		+

Note: For an explanation of the footnotes refer to the end of the table.

Table 18 (cont)

**Access criteria for other CPSS large-value payment systems**

End of 2001

	Netherlands	Singapore	Sweden	Switzerland	United Kingdom	United States	European Union
<b>Name of system</b>	<b>nap</b>	<b>nap</b>	<b>nap</b>	<b>nap</b>	<b>nap</b>	<b>CHIPS</b>	<b>EURO1</b>
Access criteria						+	+
Written rules						+	+
Minimum level of data or ratios representative of financial strength						+	+
Minimum number of transactions						-	-
Payment of an entry fee						-	+
Approval from the owner/manager or the direct participants						+	+
Approval from the local central bank						-	-
Technical requirements						+	+
Removal rules						+	+

Key: + = yes; - = no.

Germany: <sup>1</sup> EAF was closed down when RTGS<sup>plus</sup>, the new RTGS system, opened for business on 5 November 2001.Hong Kong: <sup>2</sup> Not applicable to indirect participants.Italy: <sup>3</sup> The only large-value payment system in Italy is BI-REL. For details please see Table 21.

## List of terms

The definitions below are drawn from the BIS publication *A glossary of terms used in payment and settlement systems*.<sup>1</sup>

<b>Automated teller machine (ATM)</b>	Electromechanical 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>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>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.
<b>Book entry system</b>	An accounting system that permits the transfer of claims (eg electronic transfer of securities) without the physical movement of paper documents or certificates. See dematerialisation, immobilisation.
<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>Central securities depository</b>	A facility (or an institution) for holding securities, which enables securities transactions to be processed by book entry. Physical securities may be immobilised by the depository or securities may be dematerialised (ie so that they exist only as electronic records). In addition to safekeeping, a central securities depository may incorporate comparison, clearing and settlement functions. See dematerialisation, immobilisation.
<b>Certificate</b>	Physical document which evidences an ownership claim in, indebtedness of, or other outstanding financial obligations of the issuer.
<b>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>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>Clearing/clearance</b>	The process of transmitting, reconciling and in some cases confirming payment orders or security transfer instructions prior to settlement, possibly including the 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.

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<sup>1</sup> Available from the BIS website ([www.bis.org](http://www.bis.org)).

<b>Clearing house</b>	A central location or central processing mechanism through which financial institutions agree to exchange payment instructions or other financial obligations (eg 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 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>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 card</b>	Card indicating that the holder has been granted a line of credit. It enables the holder to make purchases and/or withdraw 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 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>Custody</b>	The safekeeping and administration of securities and financial instruments on behalf of others.
<b>Daylight 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 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, eg that of a cash card or cheque guarantee card).
<b>Delivery</b>	Final transfer of a security or financial instrument.
<b>Delivery versus payment (DVP) system</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 preauthorised debit on the payer's bank account initiated by the payee.
<b>Discharge</b>	Release from a legal obligation imposed by contract or law.
<b>Failed transaction</b>	A transaction that does not settle on the contractual settlement date.
<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>Gross settlement system</b>	A transfer system in which the settlement of funds or securities transfers occurs individually (on an instruction by instruction basis). See real-time gross settlement, net settlement.
<b>Immobilisation</b>	Placement of physical certificates for securities and financial instruments in a central securities depository so that subsequent transfers can be made by book entry, that is by debits from and credits to holders' accounts at the depository.
<b>Interbank funds transfer system</b>	A funds transfer system in which most (or all) direct participants are financial institutions, particularly banks and other credit institutions.
<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, or a bank that approves a letter of credit. Sometimes used to refer to a financial institution that issues credit or debit cards.
<b>Matching</b>	The process for comparing the trade or settlement details provided by the counterparties to ensure that they agree with respect to the terms of the transaction.
<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 settlement</b>	The settlement of a number of obligations or transfers between or among counterparties on a net basis. See netting.
<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.
<b>Nominee</b>	A person or entity named by another to act on his behalf.
<b>Overnight money (or day-to-day money)</b>	A loan with a maturity of one business day.
<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 (eg 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.
<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 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>Provisional transfer</b>	A conditional transfer in which one or more parties retain the right by law or agreement to rescind the transfer.
<b>Real-time gross settlement (RTGS)</b>	The continuous (real-time) settlement of funds of securities transfers individually on an order by order basis (without netting).
<b>Registration</b>	The listing of ownership of securities in the records of the issuer or its transfer agent/registrar.
<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 funds 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 electronic funds transfers 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>Settlement agent</b>	An institution that manages the settlement process (eg the determination of settlement positions, monitoring the exchange of payments, etc) for transfer systems or other arrangements that require settlement. See final settlement.
<b>Settlement system</b>	A system used to facilitate the settlement of transfers of funds or financial instruments.
<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>SWIFT (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 SWIFT 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>Trade date</b>	The date on which a trade/bargain is executed.
<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.

**Unwinding (or settlement unwind)**

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 an extreme case, result in significant and unpredictable systemic risks.