



Bank of Israel
Payment and Settlement Systems

Israel's Payment and Settlement Systems

Red Book 2010

Preface

I am pleased to present “The Red Book” for 2010, which reports the developments in the payment and settlement systems in Israel for this year. The information and data presented in the Book is viewed with great importance by local and international financial bodies—including the Bank for International Settlements (BIS), which obtains the information from Israel and from other countries, and publishes it.

Payment and settlement systems are an important component of the economic and financial infrastructure of Israel, and its strengthening is essential for reinforcing the stability of the financial system. The Bank of Israel therefore strives to promote the safety, efficiency, and reliability of the payment and settlement systems, and takes steps to reduce their attendant risks. In this framework, the oversight on the payment and settlement systems in Israel is being established in the Bank of Israel.

In recent years the Bank of Israel initiated a comprehensive reform in the payment and settlement systems, the highlight of which was the launching the Zahav system (an RTGS system - Real Time Gross Settlement, hereinafter: “RTGS”) in July 2007. As part of the reform, changes were introduced into the stock exchange clearing houses, the paper-based clearing house, and the automated clearing house (Masav); the business day was extended to 6:30 p.m., auxiliary systems were established, and the Payment Systems Law, 5768-2008 was enacted. The inclusion of the new shekel in the CLS system as from May 2008, has transformed the Israel currency into a convertible currency, freely traded worldwide.

Israel's first “Red Book” was written and published in 2000, in conjunction with the BIS. The 2010 “Red Book” is describing the major developments that have taken place in the payment and settlement area since the previous publication. In future, we intend to publish the “Red Book” every year.

I believe that these publications will contribute to understanding Israel's financial infrastructure, and to recognizing the importance of this infrastructure and its contribution to the financial stability of the Israeli economy.



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Contents

Acronyms and abbreviations	7
Chapter 1: Main Issues	9
1.1 Major developments in the last decade	9
1.2 The major developments in 2010	11
1.3 Objectives	14
Chapter 2: Institutional aspects	16
2.1 The regulatory framework	16
2.2. Financial intermediaries	17
2.3 The Bank of Israel's objectives	18
2.3.1 A central bank	18
2.3.2 Objectives regarding Payment and settlement systems	19
2.3.2.1 Payment Systems Oversight	20
2.4 Public and private bodies operating in this area	20
Chapter 3: Payment and Settlement Systems	23
3.1 Review of the payment systems	23
3.2 The Zahav system	24
3.3 The banks' clearing house	27
3.3.1 Masav	27
3.3.2 The paper-based clearing house	29
3.4 The TASE clearing houses	30
3.5 Intraday credit system (ICS)	31
3.6 Payment cards companies	32
3.7 CLS	32
3.8 Means of communication	33
Chapter 4: Means of payment	34
4.1 Cash	35
4.2 Paper-based payments	35
4.3 Direct electronic payments	36
4.4 Payment cards	37
4.5 Internet banking	37
4.6 Mobile wallet	37
4.7 Foreign currency transfers abroad	38
4.8 Foreign currency-shekel conversions	38
Chapter 5: Tables of statistical data (BIS tables)	39
5.1 General information, banknotes and coins, institutions and deposits	40
5.2 Interbank settlement systems (Zahav, Masav, Checks, SWIFT)	47
5.3 The Tel Aviv Stock Exchange and its clearing houses	51
Glossary	55

Acronyms and abbreviations

ACH	Automated Clearing House ¹
ATM	Automated Teller Machine
BIS	Bank for International Settlements
CCP	Central Counterparty
CET	Central European Time
CLS	Continuous Linked Settlement
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depository
DVP	Delivery Versus Payment
FIFO	First-In-First-Out
FX	Foreign Exchange
IBAN	International Bank Account Number
ICS	Intraday Credit System
LSA	Loss Sharing Arrangement
POS	Point Of Sale
PVP	Payment Versus Payment
RTGS	Real Time Gross Settlement ²
SWIFT	Society for Worldwide Interbank Financial Telecommunication

¹ In Israel the automatic clearing house is known as Masav (a Hebrew acronym for Banks Clearing Center).

² In Israel the RTGS clearing house is known as the Zahav system (a Hebrew acronym for Credits and Transfers in Real Time).

Chapter 1 – Main Issues

Payment and settlement systems are an essential part of the economic and financial infrastructure of modern economies, and their efficient functioning contributes to the development of the economies and their financial stability. Insufficiently reliable payment and settlement systems are liable to expose their users to risks, and even to transfer risks from one economic system to another, which could result in systemic risk. The growth in financial activity, which characterizes many economies worldwide, and the growth in the volume of payments in international capital markets, has reinforced the importance of these systems, and indeed strengthening them is likely to minimize the risk of financial crisis. The Bank of Israel strives to strengthen financial stability, and therefore works to promote the safety, efficiency, and reliability of the payment and settlement systems, and adopts measures to reduce their risks. The growth in the importance of this field has motivated international institutions, including the Bank for International Settlements (hereinafter: "BIS"), to determine principles for the payment and settlement systems.

The BIS has instructed the central banks in many countries to produce reports on the activity of their payment systems. The aim of this report, named "Red Book", is to examine the activity of the payment and settlement systems in those countries, and the possible improvements that could be introduced in light of the latest technologies. The "Red Book" was first published by the BIS in 1980, and included data for 1978 about 11 developed countries; since then, updates have been issued each year. Israel was invited by the BIS to present a book of its own in the same format. Israel's first (and so far only) "Red Book" was presented in 2000.

1.1 Major developments in the past decade

In 2003 the Bank of Israel started to develop a program for reform in the payment and settlement systems based on accepted practice in central banks worldwide, a reform that would encompass the stock exchange clearing houses, the paper-based clearing house, and Masav. As part of the reform, the Bank launched in July 2007 the Zahav system — a type of RTGS system—for final, efficient and reliable settlement of shekel payments, in real time.

Simultaneously, the Bank of Israel set up a control room for both Zahav system and the paper-based clearing house, and established a body for managing the policy of the payment and settlement systems. At the end of 2009 steps were initiated to define the characteristics of the oversight of the payment systems oversight. The Bank of Israel's major objective regarding payment and settlement systems is to maintain the stability and efficiency of these systems in Israel.

As part of the preparations for operating the Zahav system, the banking system as a whole was required to improve the way of liquidity management and to move from "post-factum"

liquidity management to liquidity management on an intraday basis. In order to do so, the banking system was also required to manage collateral on an intraday basis, and for this purpose the Bank of Israel designed a dynamic system that enables the banks to manage an intraday and overnight credit line against full collateral—a system that was developed and is currently operated by the Tel Aviv Stock Exchange (hereinafter: “TASE”).

The Bank of Israel introduced, in collaboration with the clearing houses and the banking system, a series of changes and improvements in the existing payment systems, in order to match them to the international best practices (Box 1).

Box 1: The Major Changes in the Payment and Settlement Area

Cancellation of retroactive recording of transactions in the banks’ accounts so that balances in the banks’ accounts are final at all time.

Extending the business day from 3:00 p.m. to 6:30 p.m. so that transactions can be performed in the Zahav system in the afternoons and evenings as well.

Creating of an interbank arrangement to handle failure of one of the participants in the multilateral Masav clearing, or the paper-based clearing house, to ensure that payments are settled by the clearing houses by the end of the day.

Implementing the improvements in the check clearing process, including mandatory electronic settlement for all banks, cancellation of retroactive check clearing, check imaging, initiation of a law for check truncation and improvements in technology and in the processes in the paper-based clearing house.

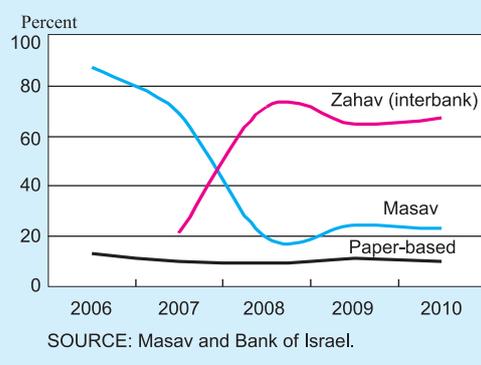
Implementing the improvements in the Masav clearing process, including a change in the order of operations so that files are sent to the banks (clearing) only after settlement in the Zahav system, cancellation of retroactive settlement of returns, and creation of two settlement windows during the day (morning and evening).

Preparation of the TASE Clearing Houses to a Delivery Versus Payment (DVP) system so that settlement of the payment in the Zahav system will be executed together with transfer of the security. This method significantly reduces the possibility of settlement risks in the TASE Clearing House. This move began with government bonds, makam, and corporate bonds.

Inclusion of the Israel currency in the CLS system—the inclusion of the shekel in CLS in 2008 significantly reduced the conversion risks bound up with the activity of business organizations in Israel with business organizations abroad.

Enactment of the Payment Systems Law—in order to reduce the legal risk in the payment systems, the Bank of Israel initiated the enactment of the Payment Systems Law, 5768-2008. The law ensures the efficient activity of the payment systems in Israel, and minimizes the inherent risks.

Figure 1
Distribution of the Clearing Houses' Activity, 2006-2010



These and other steps contributed to strengthening the stability of the domestic financial infrastructure, and allowed foreign and local bodies to continue executing transactions both in shekels and between the shekel and foreign currencies, immediately, finally, and safely, even as the global financial crises strengthened in September 2008.

Since the start of the reform, the distribution of activity between the various clearing houses has changed significantly. The major change is the inclusion of the Zahav system into the Israeli settlement system. It is shown in Figure 1 that with the launching of the Zahav system in mid 2007, the proportion of the value of Masav transactions has fallen sharply, alongside a significant rise in the proportion of the value of Zahav transactions.

1.2 The major developments in 2010

The Bank of Israel began to define the characteristics of payment systems oversight, in order to control their activities. The control, which is part of the Bank of Israel's broad responsibility for ensuring the stability of the financial infrastructure, focuses on identifying potential risks in the activity of the payment systems, and adopting measures to eliminate these risks or to control them.

In 2010 the Bank of Israel continued in its actions to increase the efficiency and safety of the different systems, and to ensure the compliance of the payment and settlement systems in Israel with international standards.

In July 2010 the bank initiated a campaign to advertising the Zahav system by means of the internet, the economic newspapers, and pamphlets distributed at the banks branches. The purpose of the campaign was to increase the awareness of business organizations to the Zahav system, and to present the advantages of the system and its simplicity of use. Parallel to this, the Bank of Israel's website³ was upgraded in order to make information about the Zahav system more accessible to business organizations and the general public. As a complementary act to the campaign, Bank of Israel, with the cooperation of the banks, promoted a temporary reduction in the customers fees in respect of transactions in

³ See: www.bankisrael.org.il/paymentsystems/eng/paymentsystems.htm.

the Zahav system, and these were reduced by an average rate of 40 percent.⁴ An additional action that was performed in this respect was lowering the threshold for transferring payments in Masav (the banks' clearing house) from NIS 3 million to NIS 1 million: meaning any transaction higher than NIS 1 million has to be executed in the Zahav system, excluding exceptions determined by Bank of Israel. These measures resulted in an increase in the number and value of transactions in the Zahav system, and in a reduction in the average amount per transaction.

In the reviewed year the Bank of Israel continued to act to ensure the business continuity of the payment and settlement systems. In recent years the Bank has introduced a series of arrangements and procedures aimed at ensuring the business continuity of the Zahav system in the event of a technical or business failure. The Bank of Israel also established backup systems for various components of the Zahav system and a complete backup site for this system—steps that reduce the operational risk. In 2010 trials were conducted simulating various interruptions—minor and extreme—to the routine work processes.

Section 4 of the Bank of Israel Law, 5770-2010 stipulates that one of the Bank of Israel's functions is: "regulate the economy's payment and settlement systems so as to ensure their efficiency and stability". This law, in conjunction with the Payment Systems Law, 5768-2008, vests the Bank of Israel the power to perform its responsibilities in the payment and settlement systems, including operating systemically important payment systems, and the payment systems oversight.

During the year under review, the Bank of Israel acted to commence implementation of the new Bank of Israel Law. The new law has an effect also on the payment and settlement area, as it permits, under certain circumstances, opening accounts in the Bank of Israel and providing credit to financial entities that are not banking corporations. The Bank of Israel is also acting to establish rules and standards for the operation of the payment systems and their regularly update.

The following are the major data on developments in Israel's payment systems in 2010:

Table 1 presents the values and the number of transactions that were settled in the three main clearing houses—Zahav, Masav, and the paper-based clearing house. It is evident that in 2010 the interbank amounts that passed through the Zahav system increased by about 20 percent, the credits in Masav increased by about 16 percent and in the paper-based clearing house — checks and manual instruments — by about 9 percent. Regarding the number of transactions there is an evident of significant increase by about 37 percent in the number of interbank transactions in Zahav, and by about 6.1 percent in the number

⁴ Details of the updated commissions charged by each of the banks appear on the Bank of Israel website in the section Payment and Settlement Systems, as well as on the websites of the commercial banks.

of Masav credits.⁵ The increase in the number of transactions in the paper-based clearing house was less than one-tenth of a percent.

The significant increase in the number of transactions and in the values of the interbank activity settled in the Zahav system, is due to, inter alia, the Bank of Israel's campaign during the year, for increasing business awareness to the advantages of the Zahav system, supplemented by the Bank of Israel's directive that from July 1, 2010, transactions in amount exceeding NIS 1 million would be settled in the Zahav system (and not in Masav),⁶ except for exceptions determined by the Bank of Israel.

Table 1
The Clearing Houses' Activity, 2009 and 2010

	Zahav		Masav ¹		Paper-based clearing house ¹		Clearing houses - total activity	Total alternative activity ²
	Interbank	Other ³	Credits	Debits	Checks	Manual transactions		
Value of transactions (NIS billions)								
2009	4,742	57,562	1,502	277	749	38	64,870	7,031
2010	5,672	70,112	1,636	322	807	51	78,600	8,166
Annual change (percent)	19.6	21.8	16.3	8.9	7.7	34.2	21.2	16.1
Volume of transactions (thousands)								
2009	167	31	97,478	163,144	124,507	499	385,826	222,651
2010	229	33	103,430	173,112	124,608	431	401,843	228,698
Annual change (percent)	37.0	6.5	6.1	6.1	0.1	-13.6	4.2	2.7

¹ Including returns.

² Including interbank Zahav, credits in Masav and the paper-based clearing house.

³ Including the clearing houses transactions and Bank of Israel transactions in its roles as an operator of the system and as the central bank.

SOURCE: Masav and Bank of Israel.

The number of checks drawn in 2010 was 0.6 percent lower this year than last year, a trend which characterizes the developed countries and originates primarily from the growing use of payment cards and the other electronic transfers.

⁵ The increase in credits in Masav is mainly due to the increase in payments of institutions and interbank payments.

⁶ From the start of the activity of the Zahav system until July 2010, the maximum payment that could be transferred in Masav was NIS 3 million. On February 6, 2010 the head of the comptroller's office issued a directive lowering this amount to NIS 1 million, commencing on July 1, 2010.

Of the checks drawn in 2010, about 2.5 percent of the overall number was returned, as against 2.8 percent last year. About 3 percent of the value of drawn checks was returned, as against 3.3 percent in 2009. Half of the checks were returned because of insufficient funds in the account, and the rest were returned for other reasons (e.g. a check presented after its expiry date, an unfamiliar signature, etc.).

Increases were also recorded in debits of the public's current accounts: in 2010 payment-cards activity grew by about 9 percent and cash withdrawals by the public grew by about 5 percent. Cash accounted for about one percent of all current account debits by the public—like it used to be last year. The authorized debits amount increased in the reviewed year by about 12 percent.

1.3 Objectives

Payment and settlement systems oversight establishment

Toward the end of 2009, the Bank of Israel began the establishment of the payment and settlement systems oversight, following the lead of central banks worldwide. The aim of the oversight is to identify the risks inherent in the activity of the payment systems, which is executed, among other things, by examining the systems' compliance with the ten core principles set by the BIS. Furthermore, the aim of the oversight is to publish recommendations of steps that will lead to reducing the risks identified in the various systems.

The oversight power and the arrangements relating to its implementation are stipulated in the Payment Systems Law, which includes, inter alia, the conditions and the considerations for declaring a system as a controlled system, the obligations that apply to the operator of a controlled system, and the provision of instruments to the overseeing body to implement this authority.

The establishment of the payment and settlement systems oversight is a complex undertaking that includes in-depth learning of international oversight principles, learning about the ways of oversight implementation in other countries. The payment and settlement systems oversight establishment in the Bank of Israel is being advised and accompanied by the World Bank on this matter. This project will continue up to the second half of 2012.

Initiating reforms and improvements to increase the efficiency and stability of the payment systems

The Bank of Israel is working toward streamlining and improving the operational processes and the regulatory framework. For this purpose the Bank is studying the international

principles in this area, and the reforms that are implemented worldwide. In this regard, the Bank of Israel has set itself several challenges:

Encouraging the use of electronic means of payment—the Bank of Israel has initiated, designed, and implemented the Zahav system alongside the other payment systems operating in Israel. The system has been operating since mid 2007, but its use is still not widespread. In 2010 the Bank of Israel embarked on a campaign for implementing the use of the Zahav system, and in the coming years will continue its efforts to increase the use of electronic means of payment in general and the Zahav system in particular.

Reducing the use of paper-based means of payment—in the year under review, Bank of Israel decided to examine the reform that was implemented by a number of countries in recent years for encouraging a reduction in the use of paper-based means of payment. The use of checks in Israel is relatively extensive compared with the accepted use in Europe:⁷ checks in Israel are used by the business sector and households for, inter alia, the payment of taxes (also high amounts). In the course of studying this matter, it was found that the level of risks involved in the use of checks is significantly higher than that involved in the use of other means of payment, and that the cost of handling a check is higher than the cost of handling an electronic transaction. In the next years, the Bank of Israel will study the situation in Israel together with other relevant parties.

At the same time, the Bank of Israel is examining the settlement process in the paper-based clearing house, and is aiming to reduce the manual settlement with the objective of reaching its full elimination at the end of the process.

Increasing the safety of the payment systems—the Zahav system integrates components that ensure for its participants a high level of safety that complies with international standards, including the use of a SWIFT communication infrastructure, and combining of the most advanced technological measures. The payments to customers by means of the Zahav system require the use of the international standard for identifying bank account numbers (hereinafter: “IBAN”), which also contributes to the safety of the payment system.

The use of the IBAN code significantly reduces errors in the transfer of payment instructions through the payment systems. Thus, in 2010 the Bank of Israel decided, in cooperation with the banks, to implement the use of the IBAN code amongst the general public.

⁷ About 59 percent of the payment orders settled in Zahav, Masav (credits) and the paper-based clearing house, compared with zero to 20 percent in European countries.

Chapter 2 – Institutional Aspects

2.1 The regulatory framework

A firm legal basis is essential for anchoring the legal arrangements connected to the activity of the Bank of Israel and the different payment systems in Israel. Several laws and agreements regulate the activity of the payment systems, as detailed below:

The Bank of Israel Law, 5770-2010 (hereinafter: “The Bank of Israel Law”) stipulates in Section 4 that one of the Bank of Israel’s objectives is to “**arrange the economy’s payment and settlement systems so as to ensure their efficiency and stability.**” This law provides the authority of the Bank of Israel to fulfill its objectives in the payment and settlement system, including the operation of systemically important payment systems, and overseeing the payment systems.

As part of the reform in the payment and settlement systems in Israel, the Bank of Israel led the enactment of the **Payment Systems Law, 5768-2008** (hereinafter: “The Payment Systems Law”), the aim of which is to ensure the efficient activity of the payment systems in Israel, and to minimize their attendant risks. The Law deals with various arrangements that are essential for the proper operation of the payments system, including, definition of the term “payment system”, determining the criteria for the finality of payments in the system, and dealing with the situation of bankruptcy of a participant in the system. The Law also provides an authority to the Bank of Israel to oversee the payment systems in Israel—under what conditions will the oversee body be responsible for the payment systems, what obligations apply to the operator of a system that is subjected to the oversight, and what instruments does the Bank of Israel have to implement this authority. By virtue of the Law, the Bank of Israel has the authority to promulgate regulations.

In recent years the Bank of Israel has been promoting the enactment of the **Electronic Check Clearing Law, 5768-2008** (hereinafter: “Check Truncation Law”). The significance of the Law is that the checks will remain in the presenting banks and will not be transferred to the paying banks; instead, imaging files will be transferred to the paying banks, and these will constitute binding legal and business evidence. Until the Check Truncation Law is passed, imaging of the checks will not constitute legal evidence that replaces the original check.

In addition to the legal amendments, the Bank of Israel signed several agreements and memorandums of understanding with various bodies operating in the payment and settlement systems in Israel. In advance of the Zahav system operation, and in order to regulate the relationship with the bodies operating in the system, the Bank of Israel signed agreements with the banking corporations, Masav, and the TASE clearing houses. These agreements include the “**Rules of the Zahav System**” that anchors the rules and the arrangements for the activity of the Zahav system.

The securities clearing house and the Maof clearing house, which belong to the TASE, operate by virtue of the **Securities Law, 5728-1968**, and according to the bylaws of the clearing houses. In a frame of its role of overseeing the payment and settlement systems, the Bank of Israel signed a **memorandum of understanding** with the Israel Securities Authority to regulate cooperation between the Bank of Israel and the Securities Authority in all matters pertaining to oversight of the TASE clearing houses.

The banks clearing house, comprising of the paper-based (checks) clearing house and the automated clearing house (Masav) operates according to “**the clearing house rules**”—which are updated periodically according to the decisions of the Clearing House Committee (the banking corporations in Israel, the Postal Bank, and the Bank of Israel).

The Prohibition of Money Laundering Law, 5760-2000 (hereinafter: “Money Laundering Law”) was enacted in Israel in August 2000, and chapters dealing with the obligations imposed on financial bodies came into force about a year and a half later. Furthermore, the Governor published a directive at this time on the prohibition of money laundering, which includes requirements concerning identification, reporting, and records-keeping by the banking corporations. At the beginning of 2005 the **Prohibition of the Financing of Terrorism Law, 5765-2005** was enacted (hereinafter: “Prohibition of the Financing of Terrorism Law”), parallel to which the directives to the Israeli banking system were changed to include the means of fighting terrorism financing. Additional steps in the war against financing terrorism were taken in November 2006: the Knesset approved regulations dealing with the prohibition of financing terrorism.

New measures for fighting money laundering and financing terrorism in Israel are constantly being examined, re-evaluated, and updated according to developments; this with the aim of providing solutions for dealing with the rise in the level of sophistication of crime in this area. The measures include legislative changes and regulations update for increasing the demands to manage the risks (including special requirements relating to the use of payment cards for illegal transactions via the internet).

2.2. Financial intermediaries

The bodies providing services as part of the payment and settlement systems are:

Banking corporations—23 banking corporations operate in Israel, divided into four groups: banking corporations, foreign banks, mortgage banks, and joint services companies.⁸ The banking corporations provide a wide variety of banking services, and also participate in the different settlement systems. The banking corporations are supervised by the Supervisor of Banks in the Bank of Israel.

⁸ The Supervisor of Banks considers a fifth category, financial institutions, in which there is one institution: Hasah—Education Savings Fund.

The **Postal Bank** is a subsidiary of the Israel Postal Company, a fully owned by government corporation. The bank supplies a variety of financial services to business customers, government bodies, and the general public by means of its branches throughout the country. According to the Postal Law, 5746-1986, the bank cannot manage deposits or supply credit to its customers (because it is not entitled to pay or charge interest). The Postal Bank is government-owned, is under the supervision of the Ministry of Communications, and participates in the various settlement systems.

Banks in the Palestinian Authority—15 members of the banks clearing house operate in the Palestinian Authority. These banks provide check accounts services in Israeli currency in the area of the Authority. The banks in the Palestinian Authority are represented in the paper-based clearing house by Israeli banking corporations.

Payment card companies—Israel has three large payment-card companies,⁹ which issue five local and international brands.¹⁰ The companies issue both bank and extra-bank payment cards. In addition they offer their customers a range of credit solutions. In recent years customer-club cards have started being issued, in conjunction with payment cards. Also the payment-card companies issue sectoral cards providing special benefits to a designated clientele.

2.3 The Bank of Israel's Objectives

2.3.1. A central bank

The Bank of Israel Law details the Bank's functions, including:

Managing monetary policy with the aim of maintaining price stability, which supports economic growth. Price stability is defined by means of flexible inflation targets that the government determines as part of its economic policy.

Holding and managing the state's foreign currency reserves—the reserves are used mainly to sell foreign currency to the government for servicing its debts, for reducing the probability of crisis in the foreign exchange market in Israel, and for improving Israel's status in the international financial environment.

Acting as the banker of the government and the banking corporations — managing the government's accounts in shekels and foreign currency, and supplying the government with banking services, such as executing receipts and payments for the activities of the government ministries and for its auxiliary units; interest rate calculations on the interest-

⁹ Leumi Card, Isracard, and Cal.

¹⁰ Visa, MasterCard, American Express, Diners, and Isracard (the only local brand). Some of the brands are operated by more than one company. For example, the Visa international brand is operated by the three companies in Israel.

bearing activity in its accounts; and producing daily bank statements and approvals of balances. The Bank of Israel also serves as the bank of the banking corporations. As part of this objective, it manages various types of deposits for the banking corporations: deposits by virtue of the liquidity regulations and deposits in which the corporations at their initiative deposit the surplus money at their disposal. These deposits are in shekels and in dollars. The banks use the current accounts in the Bank of Israel for managing the intraday and the overnight liquidity. Furthermore, the Bank of Israel provides loans to the banks in daily bids, overnight loans, and settlement services of shekel-dollar transactions.

Issuing currency¹¹, and regulating and guiding the cash system in the economy—to ensure the orderly supply of cash to the economy according to the demand and supply.

Supervising and regulating the banking system—maintaining a supervisory system over the banks in view of the essential role of the banking system, and the recognition that failure in this system could jeopardize the functioning of the economy. Included in the duties of Banking Supervision are supervising the stability of the banking corporations as it affects the protection of depositors' money, ensuring the proper managing of the banking corporations, and assuring fair business relations between banks and their customers

2.3.2 The Bank of Israel's objectives regarding payment and settlement systems

The Bank of Israel Law stipulates, as mentioned, that one of the duties of the central bank is **“to regulate the economy's payment and settlement systems so as to ensure their efficiency and stability.”** For this purpose the Bank strives to improve the safety, efficiency, and reliability of the payment and settlement systems, and adopts the means for reducing the settlement risks. The Bank also encourages the use of electronic means of payment and the use of the payment systems, including:

(1) Broadening the use of electronic means of payment among all the target groups, while determining guidelines to encourage their use; reducing the use of paper-based payments and promoting electronic alternatives; reinforcing the supportive legal framework, including the acceptance of electronic files as legal evidence; (2) Ensuring a comprehensive regulatory framework for the payment and settlement systems, including legislation, determining rules for the activity of the payment systems and enforcing them; (3) Initiating reforms for streamlining and adapting to international standards; (4) Ensuring business continuity in the payment and settlement systems.

In addition to the above, the Bank of Israel operates the Zahav system and the paper-based clearing house, and participates in the various payment systems in order to execute payments—activities that require electronic links to financial institutions in Israel and

¹¹ Banknotes, coins, commemorative and special coins.

abroad. This linkage is carried out by means of various communication interfaces and appropriate applications, including SHVA, Kasefet, and SWIFT.

2.3.2.1 Payment Systems Oversight

International financial institutions worldwide, including the Bank of Israel, recognize the importance of payment and settlement systems, their strength and the level of their attendant risks, and therefore are acting for establishing bodies to oversee these systems.

The bodies overseeing the payment systems manage control which focuses on identifying the risks inherent in the activity of the payment system, and taking steps to eliminate or control them.

The objective of the payment systems oversight is to examine the compliance of the payment systems with the ten core principles determined by the BIS, among which is a reference to a solid legal foundation, transparency, clear rules and procedures, speedy settlement, finality of payment and so forth.

The Payment Systems Law anchors the Bank of Israel's power to oversee the payment systems. The Law instructions stipulate, among other things, the conditions and the considerations for declaring a system as a controlled system, which is being subordinate to the oversight, the obligations that apply to the operator of the system, and the instruments the Bank of Israel has to implement this authority. By this law, the Bank of Israel is entitled to demand information from the payment systems and to issue instructions for changes in their method of operation. Until now, the Governor has declared two payment systems as being subordinate to the control of the Bank of Israel—the Zahav system and the CLS system.

The oversight of the payment and settlement systems will operate in conjunction with the other oversight authorities and with various bodies, both inside and outside the Bank of Israel, that are connected to the activities of controlled payment systems—including the Supervisor of Banks and the internal supervision in the Bank of Israel; the Securities Authority, in all matters connected to the oversight of the TASE clearing houses; the Information Security Authority; the Commissioner of Insurance and the Capital Market in the Ministry of Finance; and the Money Laundering and Terror Financing Prohibition Authority.

2.4 Public and private bodies operating in this area

The Council for Payment and Settlement Systems was established during 2009 to advance and assist in ensuring the efficiency and stability of the payment systems in Israel. Council members are representatives of various bodies operating in the payment systems in Israel, including representatives of the Bank of Israel, the banking corporations, and the

payment systems. A further three members of the Council are representatives of relevant bodies.

The Securities Authority was established in accord with the Securities Law, 5728-1968, in order to guard the interests of the public that invests in securities. The Authority deals, among other things, with the following: publication of prospectuses of corporations and mutual funds; examining of reports presented by corporates; regulating and supervising the activities of the mutual fund branch; licensing and supervising portfolio managers, investment advisers and investment marketing agents; and supervising non-bank stock exchange members. Since the enactment of the Payments Systems Law, the Authority oversees also the TASE clearing houses. In terms of a memorandum of understanding signed in 2009, the Bank of Israel and the Securities Authority cooperate in all matters concerning supervision of the TASE clearing houses.

The Association of Banks was founded in 1959 as an organization for all the banking corporations in Israel. It was established by the banking sector with the aim of maintaining effective dialogue with the different government authorities, and with the public and private environment on systemically important issues. The main aim of the Association of Banks is to assist in promoting the interests of the banking sector. Its activity focuses on area of regulation and economy, and it represents the banks in discussions with government institutions; public relations; and research of banking issues. The Association also represents the banking sector in the Coordinating Bureau of Economic Organizations and in parallel international forums. The Association has 18 members, including commercial banks, foreign banks and mortgage banks.

The banks' clearing house includes the paper-based clearing house (checks) and Masav. The clearing house is managed by the **Clearing House Committee**, whose members are drawn from the Bank of Israel and the banking system. The Committee's principal objective is to regulate the transfer of transactions and settlements between the banks. In order to fulfill this objective, the Clearing House Committee has formulated the "clearing house rules". The **Paper-Based Clearing House (Checks)** is managed by the Bank of Israel. **Masav** (Bank Clearing Center Ltd.) is a service company jointly owned by the five largest banks in Israel. The company has been in operation since 1984 and provides services to all the banking corporations and to business customers. Among the services the company provides are the execution of standing orders (direct debits) and the transfer of salary payments (direct credits).

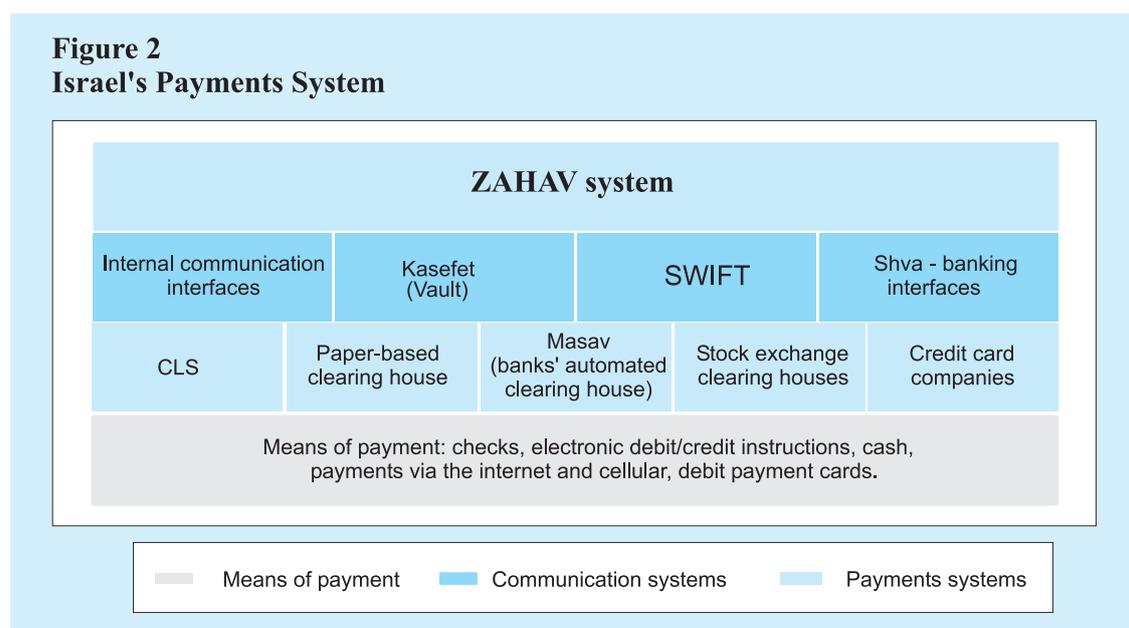
The TASE is a private company established by banks and brokers in 1953. The TASE operates computerized trading systems for all the traded securities: stocks, convertibles, bonds, makam (short term loans), exchange-traded funds (ETF), reverse certificates, and options. The TASE operates two clearing houses—the securities clearing house that settles the trading in securities, and the Maof clearing house that settles the derivatives market.

SHVA (an acronym of automatic banking services) is a limited company established in 1978 by Israel's five largest banks to supply services to various financial institutions, such as banks, monetary institutions, credit-card companies, and provident funds. The company is a banking corporation and is regarded as a "joint services company", as defined in Paragraph 23 of the Banking (Licensing) Law, 5741-1981. SHVA focuses on four main areas: management of the communication network of the payment card terminals; management of the automatic teller machines (hereinafter: "ATM") that are not positioned at branches of the banks; management of the communication network of the ATMs that are positioned at branches of the banks; and providing additional communication services.

Chapter 3—Payment and Settlement Systems

3.1 Review of the payment systems

Israel's financial infrastructure includes interbank payment and settlement systems that are used to transfer and settle payments, means of payments, participants and communication systems, as presented in Figure 2 below:



The important payment systems in Israel include the Zahav system designed for irrevocable transfer of large amounts in real time, and serves as the final settler of all the payment systems in the economy; the paper-based clearing house (checks) designed for transferring paper-based instruments; Masav, in which electronic payment instructions are cleared; the TASE clearing houses (the securities clearing house and the Maof clearing house), and the payment-card companies. The CLS system, which operates outside Israel, is an integral part of the payment and settlement systems in Israel since the shekel was joined to the CLS settlement in May 2008, and it settles the Israeli currency (NIS) against the foreign currencies that are settled by CLS.

The participants, including the public, the government, and financial bodies, make use of the various means of payment—cash, electronic payments (credits/debits), checks and paper-based payments, payment cards, internet payments, transfers abroad, and foreign currency-shekel conversions.

The participants in the various payment systems are the banking corporations, the Postal Bank, the Bank of Israel, financial bodies, the government, and the general public.¹²

3.2 The Zahav system

The Zahav system, which was launched in July 2007, is an advanced system for the efficient, reliable and irrevocable settlement of shekel payments in the economy, in real time. The system guarantees its users the rapid and safe execution of payments. Settlement in this system is executed within minutes, cannot be cancelled, and the recipient of the payment can use the money immediately, without being exposed to risks. The Zahav system, as mentioned, serves as the final settler of the overall payment systems in Israel.

The Zahav system significantly reduces the risks connected to the activity of the payment systems—both the risks of credit and liquidity, and those of the dependence of each participant on the other participants in the settling—a fact that significantly reduces the systemic risk of the participating banks. The Zahav system facilitates the safe implementation of transactions without settlement risks, even in situations of financial uncertainty.

The system also enables the Bank of Israel to examine in real time various financial indicators testifying about the banks' state of liquidity, and in this regard assists in maintaining the stability of the system's participants, and of the financial system.

Principles of the Zahav system

The Zahav system is a settlement system in a single currency—the New Shekel. The system facilitates the execution of delivery versus payment (DVP) and payment versus payment (PVP). Settlement in the Zahav system is carried out in real time during the system's working hours (according to the banking business day): From Sunday to Thursday the system is opened between 7:45 a.m. and 6:30 p.m., and on Fridays and the holiday eves between 7:45 a.m. and 2 p.m. Every payment reaching the system is settled separately, without netting debits and credits of the bank presenting the payment.

The activity in the Zahav system is conducted by means of a “settlement account” that is defined for each participant in the settlement. The settlement account includes a current account and an intraday credit account to which the Bank of Israel transfers, as needed, intraday credit against collateral. The Zahav system handles the payment instructions in the order of their arrival—“first in first out” (hereinafter: “FIFO”). At the same time the system enables the user to determine the priority of his various payment instructions

¹² Payments between accounts in the same bank does not require the use of the interbank payment systems.

according to their importance and urgency. If the sending bank does not have a sufficient balance for debiting its account in the Bank of Israel, the payment instruction is pending in the queue, until a sufficient balance is provided. The instructions waiting in the queue are sorted according to the order of priority determined by the user, and within each priority—according to FIFO.

The Zahav system complies with the stringent requirements of the Israeli National Information Security Authority. Thanks to the use of the IBAN code, the errors in transactions made by means of the system are few.

The Zahav system executes transactions of two kinds:

Bilateral transactions—instructions for debiting the account of the sending participant and crediting the account of another participant are executed between the banks' customers, between the banks participating in the settling, and also between the participants in the settling and the Bank of Israel (actions such as credit to banks, the banks' deposits in the Bank of Israel, drawing cash from the Bank of Israel, etc.). Bilateral payment instructions are conducted by the FIFO method, and are received continuously by the system during its operating hours.

Multilateral transactions—transactions executed simultaneously between many participants, and consisting of several debits and several credits. The Zahav system settles the net results of the other payment systems (Masav, the paper-based clearing house, and the TASE), as well as Bank of Israel instructions. Transactions of this kind, which are sent by the clearing houses, are settled at predetermined times during the day, and receive higher priority than those of bilateral transactions.

Participants in the Zahav system

The participants in the Zahav system are all the banking corporations in Israel, the Postal Bank, the CLS Bank, the clearing houses (Masav, the TASE clearing houses, and the paper-based clearing house) and the Bank of Israel. The participants holding a settlement account in the system and that are defined as "settlement participants" are the banking corporations, the CLS, the Postal Bank, and the Bank of Israel. These participants are entitled to send payment instructions for settlement in the Zahav system.

There are two types of "settlement participants:" **online participant** that can send and receive payments directly through the Zahav system; and **offline participant** which is not linked directly to the Zahav system, and is assisted, for the purpose of sending and receiving payments, by an online participant as a link to the Zahav system. As of the end of 2010, the system included 18 online and 4 offline participants.

The operational aspect of the Zahav system

The bilateral settlement in the Zahav system takes place in real time throughout the working day. On receipt of the instruction from the customer, the customer's branch sends a payment instruction to its head office, and from there it is sent directly to the Zahav system in the Bank of Israel. If the balance in the sending bank's account with the Bank of Israel is sufficient, the settlement is executed immediately: the system debits the sending bank's account and credits the account of the receiving bank. The debiting and crediting are final and cannot be cancelled.

The Zahav system manages the settlement accounts of the participants in the settlement. The participant's settlement account balance includes the balance of the current account in which the settlement of the payments is executed, and the balance of the participant's intraday credit accounts. Furthermore, reserve accounts are defined for each participant, which ensure that enough liquidity is reserved for the multilateral transactions of the clearing houses. Payment instructions sent by the clearing houses (TASE, Masav and paper based) are settled at predetermined times known as "settlement windows". There are six such settlement windows during a regular working day, three of which are for the TASE clearing houses,¹³ two for Masav, and one for the paper-based clearing house.

The intraday credit accounts include intraday credit granted to the participant by the Bank of Israel against collateral that is deposited in the Bank of Israel's account in the TASE, and against the participant's deposits (in shekels and dollars) held in the Bank of Israel. Since the end of 2010, the Bank of Israel grants credit to participants in the Zahav system also against foreign securities.

Managing intraday liquidity in the Zahav system

The Zahav system's method of settlement requires the banks to manage the liquidity in their accounts on an intraday basis. The bank's liquidity has to suffice for the immediate settlement of all the payment instructions reaching the system throughout its hours of operation. The Bank of Israel places intraday credit at the disposal of the participating banks, which they can use as necessary throughout the time of operation of the system.

The intraday credit is provided to the banks interest-free, against full collateral, for the day of activity only, and they have to repay it by the time the Zahav system closes. The collateral required against the intraday credit can be government bonds, the banks' deposits in the Bank of Israel, in shekels and dollars, and deposits of foreign securities.

The TASE has developed for the Bank of Israel a unique system for managing the collateral obtained against the intraday credit (ICS). During the day, the system's participants can dynamically change the value of intraday credit entering their account, and the system

¹³ On Fridays and holiday eves, the TASE has two clearing windows.

automatically calculates the value of intraday credit that the participant is entitled to, according to the scale of the collateral that it holds.

3.3 The banks' clearing house

The banks' clearing house composed of the paper-based clearing house, in which paper-based transactions are settled (checks and manual transactions), and Masav, in which electronic transactions are settled.

The banks' clearing house is administered by the Clearing House Committee, which consists of 14 members appointed by the Governor of the Bank of Israel or anyone authorized by him. Half the members are Bank of Israel representatives, and half are representatives of the banking system. The activity of the banks' clearing house, as aforesaid, is conducted on the basis of agreement between its members, known as the "clearing house rules".¹⁴ The clearing house rules are updated from time to time as decided by the Clearing House Committee. The committee convenes periodically to discuss the current needs of the clearing house, and to update its rules as necessary.

A loss sharing arrangement is an arrangement between the participants in the payment system regarding the distribution of losses that could be caused through a failure of a participant in the system. This is according to the core principles of the BIS, in terms of which the settlement of a multilateral payment instruction has to be executed in the designated time and at the latest by the end of the working day. The Bank of Israel accepted the responsibility to plan and operate arrangements for guaranteeing the multilateral settlements of the banks' clearing house. (An arrangement was worked out for each of the clearing houses—the paper-based clearing house and Masav.)

The arrangement stipulates the distribution of losses between the participants in the settlement, each according to its relative share of activity. The arrangement will be activated by the Bank of Israel in the event that one of the participants in Masav or the paper-based clearing house does not meet its commitments. This principle is critical for the system, because it reduces the uncertainty connected to net settlement, reduces the credit and liquidity risks in the system, and guarantees the settlement of the multilateral payment instruction by the end of the business day.

3.3.1 Masav

Masav is an electronic system that settles non-paper-based interbank transactions in shekels—account debit authorizations, salaries and taxes payments that are sent to Masav by the banks and by authorized organizations.

¹⁴ Also known by the former name "the clearing house regulations".

The principles of Masav

Two types of instruction are executed in Masav: **direct credits**—payments originating in organizations (including the government) that in essence are salaries, payments to suppliers, tax and other payments, and also payments originating in the banks, which reflect the actions of customers; and **direct debits**—debits originating in organizations (standing orders to debit an account).

The debit and credit instructions transmitted to Masav are cleared on the evening of the day of transfer according to the value on that day (T). The interbank transfers—which are the settling of accounts between the banks for the instructions transferred in Masav—are transferred for settlement in the Zahav system on the business day following the transfer day (T+1). Payment instructions are received by Masav throughout the working day.

Payment instructions cleared in Masav are not final, because the beneficiary is entitled to return the credit within 3 days, and the payer is entitled to return the debit within 5 days. The value date of returned payment instructions is the day they were presented.

The participants in Masav

Masav participants include all the organizations that are entitled to send payment instructions to the system. About 25 thousand¹⁵ organizations participate in Masav—including banking corporations, the Postal Bank, government ministries, public institutions, and other settlement organizations, such as payment-card companies. All the participants in Masav are direct participants, and therefore, contrary to the check clearing house, Masav does not have a mechanism of representing and represented organizations.

The operational aspect of Masav

Payment instructions are transferred to Masav from the participants in the course of the working day by means of batch files. The Clearing House Committee decided on the time limits in which files can be sent to Masav for processing on that day.

On receipt of the files, Masav conducts a clearing process—a calculation of the mutual liabilities of the participating banks, and creation of a net file designated for final settlement in the Zahav system. During the working day, from time to time, Masav produces interim calculations, the results of which are submitted to the banks—prior to sending the final net amount to the Zahav system. This step allows the banks to prepare the necessary liquidity for executing the settlement in the Zahav system.

Two settlement windows are defined in the Zahav system for Masav—the first at the start of the working day (at 10:00 a.m.), and the second toward the end of the day (at 6:00 p.m. on regular working days, and at 1:30 p.m. on Fridays and holiday eves).

¹⁵ Estimate.

3.3.2 The paper-based clearing house

The paper-based clearing house settles transactions given on paper. The transactions presented by the banks in the paper-based clearing house are mainly checks that are now presented and returned only by electronic methods. In addition, manual instruments, also known as vouchers, are presented in the clearing house (non-magnetic credits and debits, and magnetic collection vouchers).

In recent years Israel has promoted several procedures concerning the paper-based clearing house. Among other things, a Check Truncation Law draft has been formulated, the imaging of checks has commenced, steps have been taken for reducing the number of manual instruments, and for determining a standard for a uniform check. Recently the Bank of Israel decided that in the coming years it will take steps to reduce the use of checks.

Participants in the paper-based clearing house

The paper-based clearing house numbers 36 members. The members of the clearing house are the banking corporations in Israel, the Postal Bank, and the Bank of Israel. Some operate directly in the clearing house, and some are represented by other banks. In the clearing of the electronic transactions, 8 banks have the status of direct participants, and 27 the status of being represented, 15 of which are banks in the area of the Palestinian Authority. In the clearing of the manual instruments, 13 banks are direct participants and 23 are represented, 15 of which are banks in the area of the Palestinian Authority. The banks operating in the Palestinian Authority are represented by three of the banking corporations in Israel.¹⁶

The Bank of Israel participates in the paper-based clearing house in the dual role as a member of the clearing house and as its operator.

The settlement process in the paper-based clearing house

Each day, at the closure of the working day at 6:30 p.m., the banking corporations collect all the manual instruments (most of which are checks) deposited by customers in the branches during that day. Parallel to this (during the day or at its closure), the banks produce electronic files containing information on the instruments that were deposited on that day. Each bank sends the files to the other members of the clearing house at the end of the day, and therefore the banks obtain electronic information from each other about the instruments that will reach them that evening.

¹⁶ Bank Hapoalim, Bank Discount, and Bank Mercantile-Discount, except for branches operating in the Gaza Strip whose representation by Bank Hapoalim and Bank Discount were terminated in January 2009.

That night the representatives of the banks meet at the paper-based clearing house, which is located close to the banks' head offices in Tel Aviv, in order to transfer the checks and the manual instruments from the collecting banks to the paying banks. The collecting bank is the bank in which the beneficiary's account is held. The banks' representatives reconcile the electronic files that were sent, and the clearing house computes all the data into one net summary transaction. This net transaction is sent for settlement in the Zahav system the following day (T+1) in the settlement window of the paper-based clearing house that opens at 9:30 a.m.

This procedure enables the banks' customers to benefit from the recording of the instruments according to the current value of the day of the deposit (the T-day value), while the financial settlement between the banks is recorded, as aforesaid, in the Zahav system on the following working day (T+1). Because of this difference of one working day between the value date that the customer obtains and the value date that the bank obtains, the Bank of Israel settles the account of the interest between the banks at the end of each calendar month.

The banks are entitled not to honor electronic and manual instruments presented to them, for various reasons—insufficient coverage, errors in the details, etc.—and these are returned, usually on the day following their deposit, and within 3 days of being deposited.

3.4 The TASE clearing houses

The TASE clearing houses in Tel Aviv settle the transactions in securities executed in the stock exchange, and provide additional services connected to securities. The settlement complements the trading activity conducted in the stock exchange: after the stock is purchased, the clearing houses handle its transfer and the transfer of the money paid in exchange for the stock between the members of the stock exchange who represent the buyer and the seller. The payment is transferred by means of the Zahav system.

The stock exchange has two clearing houses—the securities clearing house and the Maof clearing house. The **securities clearing house** settles all the securities transactions that were executed inside and outside the stock exchange. In addition, it provides services connected to mutual funds and the keeping of securities, as well as making dividend payments, interest, etc. The **Maof clearing house** settles the derivatives: the options and futures contracts traded on the stock exchange.

The net settlement results of the securities clearing house and the Maof clearing house are settled by the Zahav system.

Participants in the TASE clearing houses

The members of the stock exchange are brokerage banks through which any investor can trade on the stock exchange. The trading is conducted between the various stock exchange

members, who submit purchase and sale orders to the stock exchange on behalf of their customers. As of the end of 2010, the stock exchange had 27 members—half of which are banks and half members which are not banks.

Most members of the stock exchange are also members of the securities clearing house. The securities clearing house has 21 members, 11 of which are banks, Bank of Israel, and 9 members which are not banks. The Maof clearing house has 9 members, all banks.

The principles of the TASE clearing houses

Stock exchange trading takes place from Sunday to Thursday between 9:30 a.m. and 4:30 p.m. The TASE clearing houses (each one separately) calculate the net amount of each bank in the various trading activities, and transfer the net results to the Zahav system for debiting and crediting the banks' accounts in the Bank of Israel.

The TASE clearing houses transfer two types of payment instructions to the Zahav system—bilateral and multilateral. **Bilateral instructions** reflect transactions outside the stock exchange. These transactions can be settled in the Zahav system throughout the working day, starting from the opening of the day for business (7:45 a.m.) and until the end of the activity of the clearing houses in the Zahav system—7:30 p.m. The TASE clearing houses also transfer **multilateral instructions** to Zahav, which reflect the net calculation of the banks participating in the settlement. These instructions are settled in the Zahav system in three settlement windows during the day: at 9:15 a.m., 3:45 p.m., and 5:45 p.m. On Fridays and holiday eves, two settlement windows operate—at 9:15 a.m., and 12:30 p.m.

Since the launching of the Zahav system, the settlement of government bonds and makam is parallel to the time of financial settlement (DVP). As from the last quarter of 2010 the TASE clearing houses are settling corporate bonds on day T+1 (similar to government bonds), and accordingly, DVP applies also to transactions in these bonds.

3.5 Intraday credit system (ICS)

In order to supply an intraday credit line to participants in the Zahav system, the Bank of Israel demands full collateral. In this context, an intraday system for managing collateral (ICS) has been established in the TASE. The ICS system is managed by the Bank of Israel, and its current operation is in the hands of the TASE.

A participant who is interested in obtaining intraday credit against TASE collateral from the Bank of Israel,¹⁷ deposits the collateral in the Bank of Israel's account in the ICS system, which then entitles it to obtain the intraday credit in its account in the Zahav system. The

¹⁷ Government bonds according to a list determined by the Bank of Israel, and updated from time to time.

ICS system is dynamically updated, according to the balance of securities recognized as collateral for granting intraday credit. According to the haircut rates, the amount of intraday credit that each bank can use in the Zahav system is determined. The action in the ICS system is executed immediate, and the interface between the banks, the TASE and the Zahav system enables participants to see the updated information on the credit lines and securities details in real time. These processes are anchored in an agreement between the Bank of Israel, the TASE, and the participants in the Zahav system.

3.6 Payment card companies

Payment card companies in Israel issue debit and credit cards to customers. Payment-card holders use the cards as means of payment in businesses, and these businesses supply card holders with goods or services. Furthermore, the companies supply settlement services for the payment cards.

In Israel, three large companies issue and clear payment cards: Isracard, Leumi Card, and Cal. The companies issue and clear international payment cards according to licenses accepted from the relevant international organizations.

Payment-card activity has greatly expanded in recent years due to several factors, among clubs),-which are the issue of extra-bank payment cards (generally connected to customer as well as the widening of the range of services provided by the companies in the areas of credit and financing, by means of instruments that enable card holders to decide on the amounts and the dates on which they will be debited, according to their needs and ability. The acceleration of activity is also the result of the growing use of cards among the public. The source of this growth is the widespread acceptance of these cards and the convenience of using them in making purchases. The option of purchasing through the internet and by telephone, using a payment card, has also contributed to their use.

3.7 CLS

The operation of the Zahav system opened new options for Israel in the international aspect. The most important was the inclusion of the Israel currency in the CLS system in May 2008. The CLS Bank, which began its commercial activity in September 2002, operates as an international clearing house for conversion transactions between currencies. Its activity is similar to that of an RTGS type system, where, instead of settlement in one currency, CLS simultaneously executes the settlements and conversions from one currency to another. The current activity of CLS is executed by banking corporations, among them those that are able to send payment instructions in behalf of their customers to the CLS. These banks are known as “settlement members”.

The settlement member provides settlement services in CLS for its customers—other banks, financial bodies, and companies. A bank that wishes to be a settlement member

is required to hold CLS shares, to operate under strict supervision, and to meet stringent operational and financial requirements. A country that is interested in adding its currency to CLS is required to appoint two settlement members, as well as three liquidity suppliers whose objective is to assist in providing liquidity when needed, as will be explained below.

The mechanism of supplying CLS liquidity is constructed so that in the event of there not being sufficient CLS liquidity for settling transactions in a certain currency, the CLS is entitled to approach the liquidity supplier and demand from it to supply the liquidity that is lacking in that currency, in exchange for transferring other currency to its account. In practice, this is a commitment of the liquidity supplier to execute a swap transaction for one night.

It should be emphasized that the immediate implication of including the shekel in the CLS system was to define the CLS Bank as a participant in the Zahav system. An account was opened for CLS in the system, by means of which payments to and from CLS are transferred.

The principles of CLS

The settlement system of the CLS Bank is an RTGS type settlement system that, as of 2010, settles between 17 different currencies. The aim of the system's activity is to execute conversion transactions safely, and it significantly reduces the risks of this type of transaction. Payments are settled by the CLS Bank on the basis of payment versus payment (PVP).

The CLS system operates from Monday to Thursday between 7:00 a.m. and 12:00 midday (CET). The system is closed on Christian public holidays, according to the calendar that CLS publishes each year. Because of the nature of the CLS system, which combines a large number of currencies, there are days on which even though the system is active, a certain currency is inactive because in its source country the day is not defined as a business day.

3.8 Means of communication

The payment systems data is transmitted between the systems by means of the following communication interfaces and designated applications:

SWIFT

The Bank of Israel began using SWIFT in 1983 as part of the foreign currency banking services that it provides to the government (executing its payments and obtaining receipts on its behalf) and the banks (executing transactions abroad and from abroad against their

foreign-currency accounts in the Bank of Israel), as well as for sending instructions and authorizations to outside bodies after completion of the transaction.

Since the launching of the Zahav system in 2007, SWIFT serves as a platform for transferring data of payment instructions and other messages between the Zahav system and its participants (banking corporations, the Postal Bank, CLS, and the TASE clearing houses), and between the banking corporations and the TASE clearing houses. In addition, all the shekel payment transactions transferred between the banking corporations by SWIFT are settled in the Zahav system. Also, Zahav system applications have been built to enable the banks participating in this system to manage their accounts independently, efficiently, and in real time.

Vault¹⁸

Cyber-Ark's "Kasefet" system facilitates the management of virtual safes used for secured and coded transferring information (data files) between organizations through the internet. In order to enable the transfer of secured data on the internet, the system provides several layers of security and coding of the data. The information transferred from the source of transmission to the target organization is protected inside computerized safes with sophisticated access authorizations and controls. Each safe is accessible only to a defined group of users. On connecting, a user of the system can access only the authorized safes.

In 2003 "Kasefet" started being used for computerizing the transfer of payment instructions from the Ministry of Foreign Affairs to the Foreign Currency Department of the Bank of Israel. Since the end of 2004, most data transfers (statistical data, classified documents, bank statements, etc.) from the banking corporations to the Bank of Israel and back are conducted by means of "Kasefet". When the Zahav system was established, the use of "Kasefet" was extended to transferring payment instructions to the system from Masav and from the government ministries. The contact with participants in the paper-based clearing house is also based on this application.

SHVA

The SHVA company operates in four main areas: management of the communication network between payment-card companies and payment-card terminals installed in business (hereinafter: "POS") that accept cards issued by companies in Israel and abroad; management of the network of automatic teller machines (hereinafter: "ATM") that are not positioned at branches of the banks; management of the communication network of the ATMs that are positioned at the banks; and providing communication services to payment-card companies in their dealings with Masav and the banking corporations participating in the monetary auctions of the Bank of Israel.

¹⁸ Kasefet [Hebrew for vault] is the nickname of the Inter-Business Vault of the Cyber-Ark company.

Chapter 4—Means of Payment

The major means of payment available to the public in Israel are cash, paper-based payments (checks and vouchers), electronic payments, payment cards, internet payments, and cellular phone payments.

Characteristics of the means of payment

The choice of the means of payment reflects agreement between the parties to the transaction to use it. The major characteristics taken into account in making this choice are: the ease of use and the convenience for the payer and the beneficiary; the conditions under which and the time in which the money will be available (the beneficiary is interested to know when the capital will be available for use); security—reflected mainly in the ability to verify details of the payer or the beneficiary; protecting the confidentiality and the reliability of the means; the ability to prove that the payment was executed; and the cost—in terms of commissions charged to the beneficiary or the payer, and the costs of the liquidity.

Types of means of payment

4.1 Cash

Banknotes and coins are the most liquid means of payment. The demand for cash in Israel is characterized by fluctuations over the months and years. The seasonal patterns of demand for each of the banknotes is identical over the years, as is the demand for coins. The seasonality is characterized by a high demand over Passover, the summer vacation (July and August), during the High Holidays, and over Chanukah. Coins are issued with values of $\frac{1}{2}$, 1, 2, 5, and 10 new shekels, as well as 10 agurot. Banknotes are issued with values of 20, 50, 100, and 200 new shekels.

In 2010 the growth trend in the means of drawing cash continued. The number of ATMs grew, and alternatives for drawing cash were placed in the marketing chains, in public recreation sites, and in gas stations throughout the country. Besides these, various businesses provide machines owned by private companies for drawing cash.

4.2 Paper-based payments

Paper-based means of payment—checks—are accepted and used widely in Israel. More than half the payment instructions settled in the interbank payments systems are checks.¹⁹

¹⁹ The payment instructions cleared in Zahav (interbank), Masav (credits), and in the paper-based clearing house.

A paper-based means of payment could be a check or a voucher. These payments, and their returns, are settled in the paper-based clearing house.

A check transaction in Israel is executed as follows: the customer presents the check to his bank (the collecting bank). The collecting bank sends the check to the bank of the customer to be debited, using the paper-based clearing house. The paying bank examines the check, verifies the signature of the payer and the balance in his account, and accordingly honors or returns the check. A check that is deposited in a commercial bank by the end of the business day (6: 30 p.m.) will be credited to the depositor's account on that day (day T). The beneficiary's account is credited with the amount of the transaction on day T conditionally, for three days, during which the paying bank is entitled to cancel the credit.

4.3 Direct electronic payments

Direct electronic payments (hereinafter: "direct debit"/ "direct credit") are payments executed automatically, without manual intervention in the process. In Israel, two systems execute payments of this kind—Zahav and Masav. The Zahav system, an RTGS type system, executes only credits (the initiator of the instruction can credit the other party, but cannot debit him.) As against this, both debits and credits are executed in Masav.

Direct credits, as aforesaid, are executed in Israel by means of the Zahav system or Masav. The credits are initiated by the payer, who instructs the bank to debit his account and credit the beneficiary. The payer transfers the payment through the bank in which his account is held. If there is a sufficient balance in his account, the bank transfers the payment instruction to the clearing house (Zahav or Masav), which settles the payment. If the payment is settled in Zahav, the credit is immediate, final, and cannot be returned. If it is settled in Masav, the party credited can return the payment within 3 days from the day of execution. Most direct credits (salaries, pension and other payments) are initiated electronically, which significantly reduces the handling cost of every payment instruction—to the customer, the bank, and the clearing house.

Direct debits are executed in Israel only through Masav. Debits are payments initiated by the beneficiary through the bank that holds his account. The beneficiary's bank collects the money from the bank holding the payer's account, subject to legal conditions to which the payer agreed. Direct debits rely on the assurance that the payer can cancel debits that were erroneously collected from him or that are illegal, within 5 days from the time of execution. Standing orders (payments to service providers—electricity, water, telephone, etc.) are the major type of direct debits in Israel, which are executed automatically every month at current value. Payments by direct debits have grown significantly in Israel in recent years, both in terms of the number of debits and their values.

4.4 Payment cards

The most frequent use of payment cards in Israel is that of the “deferred debit card”, which is linked directly to the customer’s bank account, and enables the card holder to draw cash from an ATM and/or pay for goods and services at a business up to the credit limit allocated to him by the issuer of the card. The sum of the transactions the customer executes is calculated each month and debited to his bank account. A “debit card” is similar to a deferred debit card, with one difference: the customer’s account is debited immediately following the transaction, and not as a single monthly amount. A “credit card” (revolving credit) is a type of payment card the holder of which can choose at the end of every month whether to pay the whole balance or to pay the amount in installments. In the event of paying in installments, the customer pays interest to the payment-card company. A “prepaid card” is also a payment card that the customer loads in advance for the maximum amount to be debited, and each payment is deducted from the balance on his card until it reaches zero. Some cards allow reloading, while others are for one-time use. A “prepaid card” includes various types of cards—a loaded card, gift card, fuelling card, dailing card, etc.

4.5 Internet banking

The area of electronic commerce has developed significantly in recent years. Electronic commerce is defined as executing commercial transactions electronically, usually by means of computer communication. The development of the internet gave a strong impetus to the use of electronic commerce for purchasing goods and services, without the need for an encounter between buyer and seller. Most banks in Israel enable their customers to execute payments through the internet—whether transfers between accounts or payments to governmental and public institutions. In certain cases internet access is even permitted outside the working hours of the branches—a great improvement in service to the customer.

4.6 Mobile wallet

A new means of payment that is gathering momentum worldwide in recent years is the mobile wallet. The cellular phone owner periodically deposits a certain amount, by means of which he can execute purchases at various businesses. The payment is made directly from a cellular phone by sending an SMS or by a sticker with a magnetic code that can be read by a special eyepiece installed in the shop. The use of this means of payment is beginning to develop in Israel.

4.7 Foreign currency transfers abroad

Foreign currency transfers abroad are payments that are not executed through the banking corporations, but rather by means of bodies included in the definition of “currency services providers” located throughout the country. A currency services provider is defined as one that supplies currency-conversion services of one country in the currency of another country. The Ministry of Finance is responsible for registering currency services providers and supervising their activity.

Payments between customers are executed by the currency services providers according to the stipulations of the Money Laundering Law. These payments are executed by various payment systems/infrastructure communication systems—SWIFT, GMT, Western Union, MoneyGram, etc. In certain cases the payment is executed directly against another currency services provider abroad who has an agreement with a currency services provider in Israel. These monetary transfers enable to deposit an amount of money in cash in Israel, and draw the amount in cash at the target point abroad. The service is available for passers-by and does not necessitate opening an account for transferring the money. The transaction is executed relatively quickly, and the service is also offered outside the regular banking hours.

These systems serve, among others, foreign workers, for transferring relatively small sums of money to their families in their country of origin (remittances). This method is advantageous for them because of the high cost of interbank transaction, at various currency conversion rates and between different countries, and because many foreign workers do not have bank accounts in their country of origin nor in Israel.

4.8 Foreign currency-shekel conversions

These are transactions of exchanging foreign currency for local currency and vice-versa. Currency conversion worldwide is what determines the exchange rate of the various currencies that the Bank of Israel publishes each business day. The rates of exchange that the Bank of Israel publishes are an indicator of the business activity that took place on the business day. The publication of these rates is not legally binding, and the parties executing foreign currency-shekel conversions are entitled to determine any rate agreed between them for the transaction. In Israel foreign currency-shekel conversions can be executed at the banking corporations, the Postal Bank, or through currency services providers that are authorized to do so.

Chapter 5 — Tables of Statistical Data (BIS Tables)

5.1 General information, banknotes and coins, institutions and deposits

Table 1 Basic Information on the Israeli Economy

Table 2 Means of Payment Used by Non-Banks

Table 3 Means of Payment Used by the Banks

Table 4 Banknotes and Coins

Table 5 Institutions Offering Payment Services to Non-Banks

Table 6 Number of Payment Cards and Terminals

Table 7 Indicators of the Use of Payment Systems by Non-Banks: Volume of Transactions

Table 8 Indicators of the Use of Payment Systems by Non-Banks: Value of Transactions

5.2 Interbank settlement (Zahav, Masav, Checks, SWIFT)

Table 9 Participation in Interbank Systems for Transferring Payments

Table 10 Volume of Transactions in Selected Payment Systems

Table 11 Value of Transactions in Selected Payment Systems

Table 12 Israeli Participants in SWIFT

Table 13 Transfer of SWIFT Messages From and To Local Participants

5.3 The TASE and its clearing houses

Table 14 Number of Participants in the TASE

Table 15 Number of Registered Securities

Table 16 Capital Value of the Market as a Whole

Table 17 Number of Members of the TASE Clearing Houses

Table 18 Volume of Transactions Settled

Table 19 Value of Transactions Settled

Table 1
Basic Information on the Israeli Economy
 (Current prices, at year end)

	2005	2006	2007	2008	2009	2010	Annual Change (percent)
Average population (thousands) ¹	6,930	7,054	7,180	7,309	7,463	7,625	2.17
GDP (NIS billions)	603	651	690	726	768	814	5.99
Per capita GDP	87,013	92,288	96,100	99,330	102,908	106,754	3.74
Annual CPI (percent) ²	2.38	-0.09	3.39	3.80	3.91	2.66	-31.97
Average monthly inflation rate (percent)	0.20	-0.01	0.28	0.31	0.32	0.22	-31.25
NIS/dollar exchange rate	4.603	4.225	3.846	3.802	3.775	3.549	-5.99
NIS/dollar exchange rate, annual average	4.486	4.453	4.110	3.586	3.923	3.732	-4.87

¹ Calculated as the average between December of the current year and the previous December.

² CPI of December of the current year against CPI of the previous December.

SOURCE: Central Bureau of Statistics and Bank of Israel.

Table 2
Means of Payment Used by Non-Banks
 (NIS millions, average for December)

	2005	2006	2007	2008	2009	2010	Annual Change (percent)
Value of the public's current account deposits in banks	27,374	30,737	36,602	41,916	73,621	75,889	3.08
Money supply (M1) ¹	48,161	52,138	61,221	71,895	109,481	114,467	4.55

¹ Cash held by the public and current-account deposits.

Table 3
Means of Payment Used by the Banks
 (NIS millions, daily average for December)

	2008	2009	2010	Change (percent)
Banks' deposits in the Bank of Israel ¹	27,172	99,939	92,950	-6.99
Of which:				
Reserve requirement ²	18,063	21,468	21,702	1.09
Free reserves	9,109	78,471	71,248	-9.20
Credit provided by the Bank of Israel:				
Volume of intraday credit lines ³	29,986	93,049	86,385	-7.16
Credit lines used	na	na	na	
Intraday credit ⁴	0	16	0	
Long-term credit ⁵	0	0	0	

¹ Current account deposits and short-term deposits, in local and foreign currency.

² The reserve requirement is calculated according to the average of the last reserve month of the year (starting on the last Thursday of November and ending on the last Wednesday of December).

³ Start of day balances. The collateral system is dynamic and enables immediate matching of the amount of collateral to the banks' needs.

⁴ Credit provided by the Bank of Israel for one working day.

⁵ Credit provided by the Bank of Israel for more than one business day.

SOURCE: Bank of Israel.

Table 4
Banknotes and Coins
(NIS millions, at year end)

	2008	2009	2010	Annual Change (percent)
Banknotes and coins in circulation ^{1,2}	34,361	41,489	44,828	8.05
Banknotes in circulation	33,073	40,114	43,367	8.11
Of which:				
NIS 200 banknote	16,132	21,485	25,773	19.96
NIS 100 banknote	13,998	15,425	14,486	-6.09
NIS 50 banknote	2,298	2,535	2,397	-5.44
NIS 20 banknote	612	637	709	11.30
Other ³	33	32	2	-93.75
Coins in circulation	1,288	1,375	1,461	6.25
Of which:				
NIS 10 coin	452	486	524	7.82
NIS 5 coin	265	280	300	7.14
NIS 2 coin	45	70	81	15.71
NIS 1 coin	369	376	392	4.26
NIS 1/2 coin	59	61	65	6.56
10 agurot coin	88	92	99	7.61
5 agurot coin ⁴	10	10	0	-100.00
Cash held by the banks ⁵	4,382	5,629	6,231	10.69
Cash held by the public	29,979	35,860	38,597	7.63

¹ The value of the banknotes and coins in circulation includes the cash held by the public and in the banks' safes, excluding commemorative coins and collectors' coins.

² The 2010 data excluding banknotes of Series A that were removed from circulation at the end of that year. The value of Series A banknotes at the end of 2010: NIS 220 million.

³ Old banknotes which can be exchanged at the Bank of Israel.

⁴ 5 agurot coins were removed from circulation at the end of 2010. Their value at the end of 2010: NIS 10 million.

⁵ Banknotes and coins in the safes of the commercial banks. Does not include money held by the public.

SOURCE: Bank of Israel.

Table 5
Institutions Offering Payment Services to Non-Banks
 (At year end)

	2008	2009	2010
Bank of Israel¹			
Number of branches or offices	3	3	3
Number of accounts, (banks and non-banks)	427	431	449
Number of accounts, banks	60	60	60
Number of accounts, non-banks	367	371	389
Value of the accounts, all (NIS million)	45,315	117,738	112,488
Banking corporations			
Number of institutions	24	23	23
Number of branches and offices	1,105	1,137	1,373
Banking corporations in Israel, by categories:			
Regular banking corporations			
Number of institutions	15	15	15
Number of branches or offices	1,071	1,112	1,346
Mortgages banks			
Number of institutions	3	2	2
Number of branches or offices	25	15	17
Joint services companies²			
Number of institutions	2	2	2
Number of branches or offices	2	2	2
Branches of foreign banks³			
Number of institutions	4	4	4
Number of branches or offices	7	8	8
Other institutions⁴			
Number of institutions	4	4	4
Of which:			
Postal Bank			
Number of institutions	1	1	1
Number of branches or offices	717	723	737
Credit card companies⁵			
Number of institutions	3	3	3
Total of institutions offering payment services to non-banks			
Number of institutions	29	28	28

¹ Accounts in which payments can be executed in local currency.

² Masav and SHVA.

³ Foreign banks that are legally recognized as banking corporations in Israel.

⁴ Credit card companies and the Postal Bank.

⁵ These are Isracard, Leumi Card, and Cal.

SOURCE: Bank of Israel.

Table 6
Number of Payment Cards and Terminals
 (At year end)

	2008	2009	2010	Annual Change (percent)
Cards issued in Israel^{1,2}				
Cards with cash withdrawal function	na	5,949,619	6,451,991	8.44
Debit cards ³	na	2,099,250	2,269,106	8.09
Deferred-debit cards ⁴	na	4,021,238	4,259,923	5.94
Credit cards	na	4,607,068	4,856,696	5.42
Electronic Money Cards ⁵	na	556,676	623,526	12.01
Of which: cards that were loaded at least once	na	379,854	397,880	4.75
 Total number of active cards ⁶	 5,013,650	 5,353,919	 5,674,448	 5.99
Terminals located in Israel				
ATMs	4,637	5,504	5,944	7.99
Of which: ATMs with cash withdrawal	2,453	3,237	3,662	13.13
Selling points that honor payment cards ⁷	99,793	105,112	108,576	3.30

¹ Each cards can be used for several functions (e.g., card that is used both for deferred debit and cash withdrawal).

² Valid cards at the end of the year (active and inactive).

³ Cards allowing an immediate debit of the customer's account for transactions executed in Israel.

⁴ Cards allowing a debit of the customer's account at the end of the period, and do not permit the division into installments against interest.

⁵ Reloadable pre-paid cards.

⁶ Cards that had at least one transaction during the last quarter of the year.

⁷ Electronic terminals in which payments can be made by means of payment cards.

SOURCE: The credit-card companies, SHVA, the Supervisor of Banks, and Bank of Israel processing.

Table 7
Indicators of the Use of Payment Systems by Non-Banks: Volume of Transactions

(Thousands, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Volume of transactions by the means of payment				
Direct credits	96,638	98,175	103,725	5.65
Of which:				
Paper-based credits ¹	252	270	241	-10.74
Electronic credits ²	96,386	97,905	103,484	5.70
Direct debits ³	153,144	157,979	168,376	6.58
Payments with cards issued in Israel ⁴	535,634	582,567	647,193	11.09
Checks ⁵	159,347	151,748	150,865	-0.58
Volume of transactions by type of terminal				
Total transfers in terminals in Israel ⁶	826,668	870,115	897,762	3.18
Of which:				
Withdrawals from ATMs ⁷	128,494	125,573	125,764	0.15
Deposits in ATMs	na	na	na	na
Transfer of payments at points of sale ⁸	698,174	744,542	771,998	3.69

¹ Manual credits at the paper-based clearing house.

² Interbank credits settled in Masav and Zahav.

³ Manual debits in the paper-based clearing house (estimation based on one day in a month)

and debits in Masav.

⁴ Payments executed in Israel or abroad. including actions for obtaining information at terminals, excluding ATM withdrawals.

⁵ Including interbank and intrabank transactions.

⁶ Including transfers by manual terminals.

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Table 8
Indicators of the Use of Payment Systems by Non-Banks: Value of Transactions
(NIS millions, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Value of transactions by the means of payment				
Direct credits ¹	2,741,691	2,621,267	2,915,942	11.24
Of which:				
Paper-based credits ²	4,999	9,027	11,693	29.53
Electronic credits ³	2,736,692	2,612,240	2,904,249	11.18
Direct debits ⁴	282,153	300,322	355,681	18.43
Payments with cards issued in Israel ⁵	101,132	104,853	117,927	12.47
Checks ⁶	924,131	859,666	905,949	5.38
Value of transactions by type of terminal				
Total transfers in terminals in Israel ⁷	229,590	241,729	255,486	5.69
Of which:				
Withdrawals from ATMs ⁸	63,297	67,157	67,420	0.39
Deposits in ATMs	na	na	na	
Transfer of payments at points of sale ⁹	166,293	174,572	188,066	7.73

¹ Interbank credits of customers settled in Masav, Zahav, and the paper-based clearing house.

² Manual credits between banks in the paper-based clearing house.

³ Interbank credits of customers in Masav and Zahav.

⁴ Debits in Masav and manual debits in the paper-based clearing house.

⁵ Payments executed in Israel or abroad. Does not include ATM withdrawals.

⁶ Includes interbank and intrabank transactions.

⁷ Includes transfers with manual terminals.

⁸ Includes ATMs owned by the banks and by SHVA.

⁹ Transfers executed at electronic points of sale by means of payment cards. Including debit and credit transactions.

SOURCE: Bank of Israel and SHVA.

Table 9
Participation in Interbank Systems for Transferring Payments
 (At year end)

	2008	2009	2010
Zahav - Payment system for large amounts			
Number of participants	22	22	22
Direct participants¹	18	18	18
Banking corporations	15	15	15
Bank of Israel	1	1	1
Postal Bank	1	1	1
CLS Bank ²	1	1	1
Indirect participants³	4	4	4
Retail payment systems			
Masav			
Number of participants	na	25,023	25,023
Direct participants¹	na	25,023	25,023
Banking corporations	18	18	18
Bank of Israel	1	1	1
Postal Bank	1	1	1
Other institutions ⁴	na	25,000	25,000
Payment card companies	3	3	3
Indirect participants	0	0	0
Paper-based clearing house			
Number of participants			
The manual clearing house	37	37	36
Direct participants ¹	13	13	13
Indirect participants ⁵	24	24	23
Of which: Israeli banking corporations	8	8	8
Palestinian banking corporations ⁶	16	16	15
Electronic clearing house	36	36	35
Direct participants ¹	8	8	8
Indirect participants ⁵	28	28	27
Of which: Israeli banking corporations	12	12	12
Palestinian banking corporations ⁶	16	16	15

¹ A direct participant is one that can execute actions in the system without an intermediary.

² The CLS bank (Continuous Linked Settlement) performs settlement between 17 currencies.

³ Banks that manage liquidity independently, but their communication interface to Zahav is through another bank.

⁴ Estimate. Includes bodies such as large companies, small businesses and community centers.

⁵ Participants represented by direct participants.

⁶ The Palestinian corporations are represented by Israeli banks.

SOURCE: Masav and the Bank of Israel.

Table 10
Volume of Transactions in Selected Payment Systems
 (Thousands, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Zahav - payment system for large amounts				
Total transactions ¹	217	197	261	32.49
Local transactions	211	187	251	34.22
Transactions sent to CLS ²	3	5	5	0.00
Transactions received from CLS ²	3	5	5	0.00
Concentration ratio in terms of the volume of transactions (%) ³	75.78	73.28	74.88	2.18
The retail payment systems				
Masav⁴				
Total transactions	249,208	255,227	271,512	6.38
Direct credits	96,316	97,478	103,326	6.00
Direct debits	152,892	157,749	168,186	6.62
Concentration ratio in terms of the volume of transactions (%) ^{3,5}	75.00	75.71	75.80	0.12
Checks clearing house⁴				
Total transactions	132,224	121,757	122,076	0.26
Direct credits	233	270	241	-10.74
Direct debits	252	229	190	-17.03
Checks	131,739	121,258	121,645	0.32
Concentration ratio in terms of the volume of transactions (%) ^{3,6}	77.00	77.62	78.06	0.57

¹ Transactions of customers, banks, clearing houses, and the Bank of Israel.

² The data for 2008 are for the period beginning on May 27, the date the shekel joined the CLS.

³ Market share of the five most active institutions in the system.

⁴ The data does not include returns.

⁵ Etsimation.

⁶ The 2008 data is an etsimation.

SOURCE: Masav and Bank of Israel.

Table 11
Value of Transactions in Selected Payment Systems
(NIS millions, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Zahav - payment system for large amounts				
Total transactions ¹	21,874,139	62,303,647	75,784,201	21.64
Local transactions	21,368,871	61,374,025	74,688,533	21.69
Transactions sent to CLS ²	252,634	464,811	547,834	17.86
Transactions received from CLS ²	252,634	464,811	547,834	17.86
Concentration ratio in terms of the value of transactions (%) ³	79.24	76.62	77.56	1.23
The retail payment systems				
Masav⁴				
Total transactions	1,733,581	1,773,858	1,951,934	10.04
Direct credits	1,472,788	1,502,623	1,635,149	8.82
Direct debits	260,793	271,235	316,785	16.79
Concentration ratio in terms of the value of transactions (%) ³	78.50	79.24	79.33	0.12
Checks clearing house⁴				
Total transactions	803,223	765,427	834,245	8.99
Direct credits	4,999	9,027	11,693	29.53
Direct debits	21,360	29,088	38,895	33.71
Checks	776,864	727,312	783,657	7.75
Concentration ratio in terms of the value of transactions (%) ³	84.38	84.43	84.76	0.39

¹ Transactions of customers, banks, clearing houses, and the Bank of Israel.

² The data for 2008 are for the period beginning on May 27, the date the shekel joined the CLS.

Table 12
Israeli Participants in SWIFT
 (Year end)

	2005	2006	2007	2008	2009	2010
Members ¹	9	9	9	9	9	9
Secondary members ²	3	3	5	5	5	6
Participants ³	2	3	4	4	4	4
Total users	14	15	18	18	18	19
Total SWIFT users ⁴	7,888	8,105	8,332	8,830	9,281	9,705
Members	2,231	2,288	2,276	2,276	2,356	2,344
Secondary members	3,077	3,120	3,212	3,305	3,306	3,331
Participants	2,580	2,697	2,844	3,249	3,619	4,030

¹ Organizations with shares in the SWIFT organization.

² Organizations that are owned by the members of SWIFT.

³ Organizations that do not have shares in SWIFT, and whose activities in the SWIFT system are restricted.

⁴ Global data.

SOURCE: SWIFT.

Table 13
Transfer of SWIFT Messages From and To Local Participants¹
 (Thousands, cumulative annual)

	2005	2006	2007	2008	2009	2010	Annual Change (percent)
Messages sent	4,371	4,641	5,949	7,262	7,979	9,160	14.80
Of which:							
Category I ²	1,649	1,706	1,884	2,054	2,021	2,268	12.20
Category II ³	818	794	1,065	1,124	854	553	-35.31
Messages received	4,063	4,688	6,424	7,793	9,225	10,154	10.07
Of which:							
Category I ²	1,570	1,643	1,780	1,998	1,983	2,229	12.42
Category II ³	286	296	563	601	507	506	-0.10
Local traffic in Israel	704	543	821	965	849	628	-26.06
Global traffic	2,518,285	2,864,537	3,501,163	3,854,576	3,760,314	4,031,935	7.22

¹ The traffic of messages in the table includes transfers in shekels and foreign currency.

² Transmissions used by the banks to transfer money to the customer's account.

³ Transmissions used by the banks to transfer money to the account of another bank..

SOURCE: SWIFT.

Table 14
Number of Participants in the TASE
 (At year end)

	2008	2009	2010
Number of participants	28	28	27
Of which:			
Local participants	24	23	22
Bank of Israel	1	1	1
Banks	11	11	11
Other	12	11	10
Foreign participants	4	5	5
Banks	2	2	2
Other	2	3	3

SOURCE: TASE.

Table 15
Number of Registered Securities
 (At year end)

	2008	2009	2010	Annual Change (percent)
Total number of securities designated for trading	1,880	1,885	2003	6.26
Bonds	720	747	710	-4.95
Bonds issued for a year or less ¹	11	12	15	25.00
Bonds issued for more than a year ²	709	735	695	-5.44
Stocks	632	611	603	-1.31
Other ³	528	527	690	30.93

¹ Short-term loans.

² Government and corporate bonds.

³ ETFs and options.

Table 16
Capital Value of the Market as a Whole
 (NIS millions, at year end)

	2008	2009	2010	Annual Change (percent)
Capital value of the market as a whole ¹	670,200	769,700	806,140	4.73

¹The data includes cross-listed stocks issued in Israel and abroad.

SOURCE: TASE.

Table 17
Number of Members of the TASE Clearing Houses
 (At year end)

	2008	2009	2010
Securities clearing house			
Members of the clearing house	23	22	21
Bank of Israel	1	1	1
Banking corporations	11	11	11
Other	11	10	9
Local members of the clearing house	21	20	19
Bank of Israel	1	1	1
Banking corporations	9	9	9
Other	11	10	9
Foreign members of the clearing house	2	2	2
Banking corporations	2	2	2
Other	0	0	0
Maof clearing house			
Local banking corporations that are members of the clearing house	10	10	9

SOURCE: TASE.

Table 18
Volume of Transactions Settled in the TASE Clearing Houses
 (Thousands, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Volume of transactions settled	109,617	94,925	106,292	11.97
Securities clearing house				
Volume of securities transactions settled	17,114	23,879	27,506	15.19
Bonds	4,577	6,867	6,860	-0.10
Makam	782	438	368	-15.98
Bonds issued for more than a year ¹	3,795	6,429	6,492	0.98
Stocks	12,537	17,012	20,646	21.36
Volume of repo actions settled	na	9	2	-77.78
Bonds	na	9	2	-77.78
Bonds issued for a year or less	na	0	0	0.00
Bonds issued for more than a year ¹	na	9	2	-77.78
Government bonds	na	9	2	-77.78
Stocks	na	0	0	0.00
Maof clearing house				
Volume of derivatives transactions settled	92,503	71,037	78,784	10.91

¹ Government and corporate bonds.
 SOURCE: TASE.

Table 19
Value of Transactions Settled in the TASE Clearing Houses
 (NIS millions, cumulative annual)

	2008	2009	2010	Annual Change (percent)
Value of transactions settled	1,609,399	1,518,902	1,670,971	10.01
Securities clearing house				
Value of securities transactions settled	1,492,332	1,437,644	1,586,478	10.35
Bonds	1,044,380	1,054,928	1,088,646	3.20
Makam	181,054	149,879	291,143	94.25
Bonds issued for more than a year ¹	863,326	905,049	797,503	-11.88
Stocks	447,952	382,716	497,832	30.08
Value of repo actions settled	na	53	1,376	2496.23
Bonds	na	0	0	0.00
Bonds issued for a year or less	na	0	0	0.00
Bonds issued for more than a year ¹	na	0	0	0.00
Government bonds	na	53	1,376	2496.23
Stocks	na	0	0	0.00
Maof clearing house				
Value of derivatives transactions settled	117,067	81,205	83,117	2.35

¹ Government and corporate bonds.
 SOURCE: TASE.

Glossary

Means of payment (M1)	Total cash in the hands of the public and the amount of the public's current account deposits in the banks. This definition does not include the balances deposited in the Bank of Israel and the balances kept in the banks' safes.
Batch processing in the payments system	Accumulation of a group of payment instructions and their joint processing at a particular time.
Credit	The right to use goods and services, or to purchase them, with an undertaking to pay at a later date.
Daily credit	Credit provided for a single working day. This credit is also known as a daily overdraft and intraday credit.
Security/collateral	Tangible property pledged to a bank as security for the repayment of a loan. Collateral can be liquid, enabling it to be realized easily—such as securities traded on the stock exchange, bank deposits, debtors accounts, and other property of various kinds (tradable collateral)—or immovable assets (non-tradable collateral). This collateral becomes the property of the lender in the event that the borrower does not comply with the conditions of the loan.
Payment-card companies	In Israel three companies issue and settle payment cards: Isracard, Leumi Card, and Cal. The companies issue and settle international payment cards according to licenses given to them by the relevant international organizations.
Authorized debits (standing orders)	A method of executing payments in which the beneficiary collects money from the payer through the bank. The payer's bank account is debited, and the beneficiary's account is credited by virtue of a debit presented by the beneficiary according to a letter of authorization given by the payer.
Money laundering	Financial actions whose purpose is to conceal the source of the money, usually money from an illegal source or money on which tax has not been paid. The process of "prohibition of money laundering" returns the money to the legal system.

Monetary loan	A loan that the Bank of Israel gives to the banks for the period of a day (daily auction) or a week (weekly auction), using a method of auctioning at different interest-rate intervals.
Business continuity in the payments system	Arrangements in the payments system to ensure that it will meet agreed levels of service, even in the event of failure of one or more of its components, or as a result of an exceptional external event. This term includes both preventive measures as well as arrangements for dealing with unexpected events.
Value day	The day on which the participant's account in the payment and settlement systems or the customer's account is credited/debited.
Clearing house	A central location or a central processing mechanism by means of which financial institutions agree to exchange among themselves payment instructions or other financial obligations. The institutions settle between themselves the exchanged items at an agreed time, and the clearing house manages the finances and the risks for the settlement system.
Liquidity	The ability of a business entity to meet current liabilities from its current assets (cash, tradable securities, etc.).
Intraday liquidity	Liquidity ability in the course of the working day.
SWIFT	The communications system of the SWIFT international organization (Society for Worldwide Interbank Financial Telecommunication), which enables the secure dispatch and receipt of designated electronic messages between financial institutions worldwide.
Settlement	An action that discharges the obligations between two or more parties regarding the transfer of money, securities or other financial assets.
Net settlement	Settlement of several obligations or transfers between or within a group of opposing parties on a net basis.