

THE PAYMENT AND SETTLEMENT SYSTEMS IN ISRAEL IN 2010



Introduction

The payment and settlement systems are an essential part of the economic and financial infrastructure of modern markets, and their efficient functioning contributes to the development and financial stability of the economies. Payment and settlement systems that are not sufficiently reliable may expose their participants to risks, and even transfer risks from one economic system to another so much as to cause the development of a systemic risk. The rise in financial activity along with the increase in the volume of payments in the international capital markets, which are characteristic of many economies around the world, have enhanced the importance of these systems.

The worldwide recognition in recent years of the importance of payment and settlement systems has driven international financial institutions and central banks in many countries, including Israel, to increase the efficiency of settlement processes, to reduce risks and to oversee the payment and settlement systems. The Bank of Israel, as the country's central bank, strives to strengthen the economy's financial stability, and therefore acts to promote the safety, efficiency and credibility of the payment and settlement systems in Israel.

The Bank of Israel operates by virtue of **the Bank of Israel Law, 5770-2010** (hereinafter: "the Bank of Israel Law"), which provides that one of the objectives of the Bank is to arrange the economy's payment and settlement systems so as to ensure their efficiency and stability. The Bank of Israel also operates by virtue of **the Payment Systems Law, 5768-2008** (hereinafter: "the Payment Systems Law"), which provides the authority of Bank of Israel to oversee the payment systems in Israel and refers also to various arrangements required for the proper functioning of payment systems in general and the Zahav¹ system in particular.

¹ A Hebrew acronym for Real Time Credits and Transfers, known in the world as RTGS.



1. Principal developments in 2010

At the end of 2009 Bank of Israel began taking steps for the establishment of a new body that will oversee the payment and settlement systems in Israel, as provided in the Payment Systems Law. The establishment of an oversight body for the payment systems is a complex undertaking that will continue until 2012. The Bank of Israel is being advised and accompanied by the World Bank on this matter.

The Bank of Israel's oversight activity over the payment systems is part of its overall responsibility to ensure the stability of the financial infrastructure. The oversight activity mainly focuses on identifying potential risks in the operations of the payment systems and on taking actions to eliminate these risks or control them.

Recognition of the importance of the central bank's involvement in the payment and settlement systems is reflected in four core principles for central banks, which were provided by the Bank of International Settlement (hereinafter: "BIS"). These relate to, inter alia, the central bank's responsibility to oversee the payment and settlement systems and to cooperate with various oversight bodies and central banks around the world. Recognition of the force and size of risks relating to settlements has driven the BIS, more than a decade ago, to establish international core principles for systemically important systems.² The responsibility of overseeing payment systems includes, inter alia, examining compliance of the systems with these principles.

The Payment Systems Law, which is the foundation for Bank of Israel's authority to oversee the payment systems, grants the Governor of the Bank the authority to declare a payment system to be a "controlled system" or a "designated controlled system," in which the payment is considered final. Until now, the Zahav system and the CLS (Continuous Linked Settlement) system³ have been declared designated controlled systems. Bank of Israel participates in an international oversight group that oversees the CLS and is headed by the Federal Reserve Bank. This group is comprised of representatives from all the central banks of countries whose currencies are settled on the CLS. In accordance with the law, the Tel Aviv Stock Exchange (hereinafter: "TASE") clearing houses are subject to the supervision of the Israel Securities Authority (hereinafter: "ISA"). The Bank of Israel, in its capacity as being responsible for ensuring the efficiency and stability of the payment and settlement systems, works with the cooperation of the ISA, in accordance with a memorandum of understanding that was signed by both parties.

² Core Principles for Systemically Important Systems (SIPS).

³ An international system enabling settlement between 17 different currencies, including the NIS.

In addition to the project of establishing a body for the oversight of payment systems, in 2010 The Bank of Israel continued its activities for increasing the efficiency and safety of the various systems, so that the payment and settlement systems in Israel would conform to international standards.

Presented hereunder are the main actions that were performed in 2010.

Encouraging the use of advanced and lower-risk electronic methods

In July 2010, the Bank initiated a campaign for advertising the Zahav system on the internet, economic newspapers and special pamphlets that were distributed at the branches of banks. The purpose of the advertising campaign was to increase business's awareness of the Zahav system and to present to them the advantages of the system and the simplicity of its use. At that same time the website of Bank of Israel was upgraded⁴ for the purpose of making the information accessible to businesses and the general public. As a complementary act to the advertising campaign, Bank of Israel, with the cooperation of the banks, promoted a temporary reduction in the fees the customers pay in respect of transactions in the Zahav system and these were reduced by an average rate of 40 percent.⁵ 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: any transaction higher than NIS 1 million has to be executed in the Zahav system, other than in exceptions provided by Bank of Israel. These measures resulted in an increase in the number and value of customers' transactions in the Zahav system, and in a reduction in the average amount per transaction.

Reduction in 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:⁶ checks in Israel are used by the business sector and households for, inter alia, the payment of taxes (low and 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

⁴ The address of the website: www.bankisrael.org.il.

⁵ An updated list of the fees of each bank appears on the website of The Bank of Israel under Payment and Settlement Systems, and on the websites of the banks.

⁶ 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.



transaction. In 2011, The Bank of Israel will study the situation in Israel together with other relevant parties.

The Bank of Israel is also examining the settlement process in the checks clearing house and has commenced developing a new clearing system that will be operated by it. In this framework the clearing house Board has continued to search for electronic alternatives for the execution of payments that are presently settled manually at the paper-based clearing house (presentations and returns of manual debits and credits). In 2010 the clearing house Board acted to reduce manual clearing, with the objective of reaching its full elimination by the end of the process.

Increasing the safety of the payment systems

The Zahav system includes components that ensure for its participants a high level of safety that complies with international standards, including a SWIFT communication infrastructure and use of some of the most advanced technological measures. In addition, the rules of the Zahav system refer to the international standard for identifying bank account numbers (hereinafter: "IBAN") and require the

use of an IBAN code in customers payments by means of the Zahav system.

Using an IBAN code significantly reduces errors in payment transactions by means of the payment systems. This is one of the reasons that in 2010 it was decided, together with the banks, to assimilate the use of an IBAN code throughout the general public, by exposing the customers to this code by means of direct mailing, by advertising at bank branches and possibly by also presenting the code on additional means of payment such as: payment cards and checks.

IBAN
(International Bank Account Number)

An international standard (ISO 13616) for identifying bank accounts. The use of IBAN code enables straight-through processing (STP) of transactions, ensures correctness of the account number and contributes to standardization.

An IBAN code is comprised of a string of characters, which represent the bank account number, the numbers of the bank and the branch, the country code and two control digits, as indicated hereunder:

Structure of the IBAN in Israel

Account Number	Branch code	Bank code	Control digits	Country code
13 characters	3 characters	3 characters	2 characters	IL

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 of Israel created some 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 that system – actions that reduce the operational risk. Tests were performed in 2010 that assimilated various interruptions to routine work processes – minor and extreme.

Implementing the Bank of Israel Law

The Bank of Israel Law provides (in Paragraph 4) that one of the responsibilities of The Bank of Israel is to “regulate the economy’s payment and settlement systems so as to ensure their efficiency and stability.” This law, together with the Payment Systems Law, vests in The Bank of Israel the power to perform its responsibilities in the payment and settlement systems, including operating systemically important payment systems and overseeing payment systems.

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 area of payment and settlement systems, as it permits, under certain circumstances of actual concern regarding the stability of the financial system or its ongoing activity, opening accounts in The Bank of Israel and providing credit to financial entities that are not banks. The Bank of Israel is also acting to establish rules and standards for the operation of the payment systems and to regularly update the existing rules.

Establishing a data base

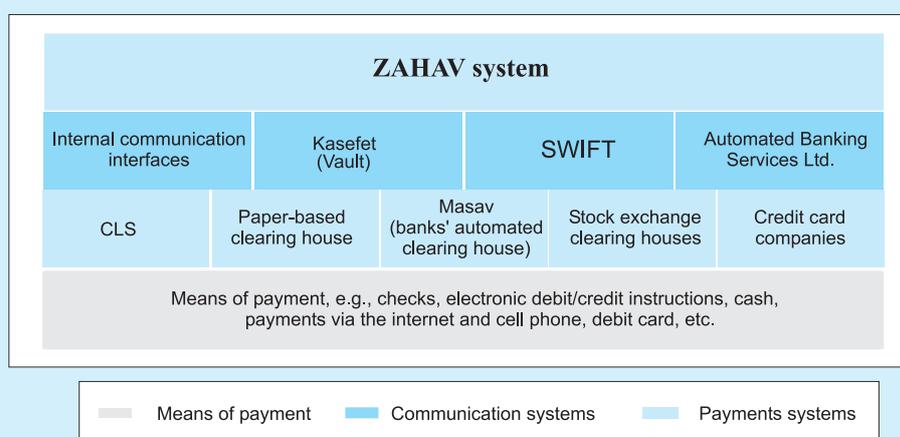
The planning of a data base commenced in 2010 with respect to the activity of principal parties in the payment and settlement area of the Israeli economy, including the various clearing houses (Zahav, Masav, paper-based clearing house and TASE clearing houses), payment card companies and the participants in the payment systems (the banks, the Postal Bank and the CLS bank). This data base will include data that was collected in the past as well as current data, and will be used to analyze trends in the area and for internal reporting purposes and for reporting to international entities such as the BIS.



2. Review of the payments area in Israel

The financial infrastructure in Israel includes interbank payment and settlement systems that are used to transfer and settle payments, communication systems and means for making payments (Figure 1). The important payment systems in Israel include, inter alia, the Zahav system, which is designated for real time and final settlement of large payments; the paper-based clearing house for paper transactions (checks and various debits and credits); the Masav (banks' automated clearing house) which settles electronic debit

Figure 1
Israel's Payments System



and credit transactions; the TASE clearing houses (the securities and the Maof clearing houses) and the payment card companies. The CLS system, which operates outside Israel, is a part of Israel's payment and settlement system: it settles the Israeli currency against foreign currencies that are settled in CLS.

The payment systems encompass transactions using different payment methods, including: electronic debit/credit transactions such as payment transactions in the Zahav system or in Masav, payment by checks, payments with various types of payment cards such as credit cards, debit cards and pre-paid cards. There are also payments in cash and payments by means of the internet and cellular phone.

The participants in the various payment systems are mostly commercial banks and large institutions. The general public makes direct use of the various means of payment and needs interbank payment systems for transferring money from one bank to another. The transfer of money from one account to another account in the same bank does not require the use of an interbank payment system.

2.1 Payment systems operating in Israel

2.1.1 The Zahav system

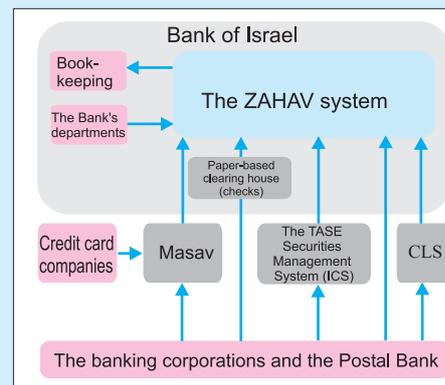
The Zahav system, which was inaugurated in Israel at the end of July 2007, is an RTGS (Real Time Gross Settlement) system which operates in most countries of the world (developed and developing).

The system settles payments immediately, and the settled payments are final and irrevocable. Participants in the system are banks, the Postal Bank and CLS (hereinafter: "the Settlement Participants"), the clearing houses (Masav, TASE clearing houses, paper-based clearing house) and The Bank of Israel's divisions. One of the main goals of the Zahav system is to minimize the various risks associated with other settlement systems – systemic risk, liquidity risk, credit risk, legal risk and operational risk.

The Zahav system settles bilateral credits between customers and the settlement participants, as well as credits between the settlement participants and Bank of Israel – credit to banks, banks's deposits with Bank of Israel, cash withdrawals from Bank of Israel, etc. The Zahav system serves as the final settle for all the settlement systems in Israel as it settles the net results of other clearing houses (Masav, the paper-based and TASE).

The settlement in the Zahav system takes place in real time from 7:45 a.m. to 6:30 p.m. throughout the entire business day. Each payment received in the system is settled separately, with no offsetting between debits and credits from the bank sending the transaction. The Bank of Israel provides the settlement participants with intraday credit which they may utilize according to their needs during the system's operating hours. This credit does not bear interest, it is fully covered by collateral, and is provided for the specific day of operation only - banks must repay the credit by closing time of the Zahav system. The collateral provided against the intraday credit is government bonds, makam and the banks's deposits held with the Bank of Israel. As from the end of 2010, Bank of Israel provides credit to the participants of the Zahav system also against foreign securities.

Figure 2
The ZAHAV System as the Final Clearer



SOURCE: Bank of Israel.



The system enables The Bank of Israel to examine in real time financial indicators regarding the liquidity situation of the banks, and helps to maintain the stability of the system participants and of the economy's financial system.

The Zahav system combines highly advanced components that ensure a high level of safety and resilience. The interface between the system and the main participants – the commercial banks and the TASE clearing houses – is performed by means of the SWIFT system, in accordance with the accepted international standard for safe transfer of money in many countries around the world.

The number of errors in transactions performed by means of the system is very low, due to the use of the international standard for identifying bank accounts – IBAN. In addition, the Zahav system meets the very high standards of the National Authority for Information Security in Israel.

2.1.2 The banks' clearing house

The banks' clearing house is composed of the paper-based (checks) clearing house and the Masav automated clearing house. The clearing house operates according to an agreement between its members, i.e., the commercial banks in Israel, the Postal Bank and the Bank of Israel. Some of the clearing house members operate directly within the clearing house while others are represented by other banks. The banks operating in the Palestinian Authority are also members of the clearing house and they are represented by three banking corporations in Israel.⁷

The banks' clearing house is managed by its Board, which consists of 14 members, half of whom are from The Bank of Israel and half are from the banking system. The banks' clearing house operates according to the "clearing house regulations," which are periodically updated according to the decisions of the Board. The Board meets periodically to discuss the ongoing needs of the clearing house and to update the clearing house regulations according to those needs.

2.1.2.1 Paper-based clearing house

The payments presented by the banks to the paper-based clearing house are primarily checks, which are currently presented and returned only electronically and non-magnetic debits and credits (which are manual). The banks may chose for various reasons not to honor electronic and manual transactions that were presented to them, for example – insufficient coverage, an error in details and so forth; these are usually returned on the day following their deposit and no later than three days from the date of deposit.

⁷ Bank Hapoalim, Discount Bank and Mercantile-Discount Bank, other than branches operating in the Gaza Strip whose representation by Bank Hapoalim and Discount Bank was discontinued in January 2009.

In recent years progress has been made on several issues relating to the paper-based clearing house, including check imaging, measures to reduce the number of non-magnetic manual transactions in anticipation of the elimination of manual settlement, establishing a standard for a uniform check and preparing a draft **Electronic Check Clearing Law, 5768-2008**⁸ (hereinafter: “Check Truncation Law”), of which one of its objectives is to arrange the acceptance of an electronic file as legal evidence. The Bank of Israel is also examining the possibility of leading a progress to reduce the use of checks.

2.1.2.2 Masav

Masav is the electronic system that clears interbank transactions in shekels that are not based on paper documents or cash – such as direct debit authorizations, salary payments and taxes – which are transferred to it by the banks and by authorized organizations. As from December 2009 Masav also clears monetary activity deriving from credit returns.

Two types of payment transactions are transferred in Masav – direct credits and direct debits. **Direct credits** are payments originating from organizations (including the government), which are essentially salaries, payments to suppliers, tax payments and also other payments, as well as payments originating from banks, which reflect the activity of customers; **direct debits** are debits originating from organizations (authorized debits).

Payment transactions are received in Masav throughout the entire business day and are settled in the evening of the transfer date, according to the value of that same day (T). The banks’ settlement of the payments that were transferred in Masav is transferred to the Zahav system for settlement on the business day after the date of transfer (T+1). It is noted that the payment transactions cleared in Masav are not final, since the receiving party may return the credit within 3 days, and the debit within 5 days.

2.1.3 The TASE clearing houses

The TASE clearing houses settle the transactions in securities that are executed on the stock exchange and provide additional services relating to securities. The settlement complements the trading activities performed on the stock exchange: after the purchase of a share the clearing houses handle its transfer and the transfer of the money paid for it between the stock exchange members representing the buyer and the seller. The payment is transferred by means of the Zahav system.

The TASE has two clearing houses – a securities clearing house and a Maof clearing house. **The securities clearing house** settles all the transactions in securities that were executed on and off the stock exchange. It also provides services relating to mutual

⁸ This draft law is also known as the draft Check Truncation Law.



funds and custody of securities, as well as executing payments of dividends, interest, etc; **The Maof clearing house** settles payments resulting from the purchase and expiry of derivatives (options and futures).

The settlement of government bonds and makam is parallel to the time of financial settlement (delivery versus payment - DVP). As from the last quarter of 2010, DVP applies also to transactions in corporate bonds.

2.1.4 The CLS system

The CLS system, which was established in 2002 by the largest banks in the world in order to reduce the risk in settling foreign currency transactions, operates as an international clearing house for foreign currency conversions. The operations performed in the CLS system are similar to those of an RTGS system, but instead of settlement activity in one currency, the CLS system carries out settlement and conversion activities from one currency to another currency simultaneously. The CLS system provides settlement services for 17 currencies and manages accounts on the RTGS systems of each one of the currencies. The CLS system settles more than 50 percent of all foreign currency conversion transactions worldwide.

In May 2008 the new shekel joined the CLS system. The addition of the Israeli currency to the international settlement system has significantly reduced the conversion risks involved in the activity between Israeli businesses and those abroad, reinforcing their stability. The inclusion of the new shekel among the leading currencies in the world, which are currently handled by the CLS system, greatly strengthened Israel's currency and made it a fully convertible currency that is traded freely around the world.

2.1.5 Payment card companies

Payment card companies in Israel issue payment cards to their customers, including debit cards and credit cards. The holder of a payment card uses the card as means of payment to a business, and the business provides goods or services to the holder of the card. In addition, the companies provide clearing services for the payment cards.

Three principal companies operate in Israel in the area of issuing and clearing payment cards: Isracard, Leumi-Card and Cal. These companies issue and clear local payment cards and international payment cards in accordance with licenses granted to them by relevant international organizations.

2.2 Means of payment

As noted, Israel's payment and settlement area is composed of payment systems, communication systems and means of payment. The means of payment through which

the public can make payments include cash, checks, electronic debits and credits (such as payments in Zahav and Masav), use of payment cards, authorized debits, internet-based payments, payments by cell-phone, etc.

A major trend in recent years with respect to means of payment is a significant increase in the use of electronic means of payment, and principally payment cards. The activity in this area has expanded significantly in recent years, with the reason for the increase being the considerable availability and convenience of using these cards at businesses. Also the possibility of making purchases through the internet and by phone has contributed to the increase in their use.

2.3 Communication systems

2.3.1 SWIFT

The SWIFT communication system facilitates the safe and efficient automatic transfer of payment transactions. Thus, most developed countries have a payment system based wholly or partially on this system. In Israel SWIFT serves as a means of communication between various financial entities, including for transferring payment transactions and other messages between the Zahav system and its participants and between the banks and the TASE clearing houses. SWIFT is also used by the banks and financial institutions for sending and receiving foreign currency payment transactions to and from other countries.

Due to the critical worldwide importance of the SWIFT system, the central banks of the G-10 countries decided to introduce joint supervision of the system. This supervision is led by the central bank of Belgium.⁹

2.3.2 ABS

The ABS (Automated Banking Services) Company (hereinafter: "the Company"), is a limited company that was established in 1978 by Israel's five largest banks with the purpose of providing services to various financial institutions – banks, financial institutions, payment card companies, provident funds, etc. The Company operates according to a permit issued by the Deputy Governor of The Bank of Israel in 1981. The Company is a joint services company as this term is defined in Section 23 of the Banking (Licensing) Law, 5741-1981.

ABS's operations focus on four key areas: management of the communication network between the payment card terminals in businesses (Point of Sale – POS) and the payment

⁹ The central bank of Belgium was chosen as SWIFT's supervising body because SWIFT is registered in Belgium.



card companies, management of the network of ATMs not located at bank branches, management of the communication network of ATMs located at banks, and providing the payment card companies with communication services to Masav and to banks participating in monetary tenders vis-à-vis Bank of Israel.

2.3.3 Kasefet (Vault)¹⁰

Kasefet is a means of communication that facilitates the management of a set of virtual vaults which provide the secure and encrypted transfer of information (stored in data files) between enterprises over the internet network. The Bank of Israel uses this means to transfer and receive information to and from the commercial banks.

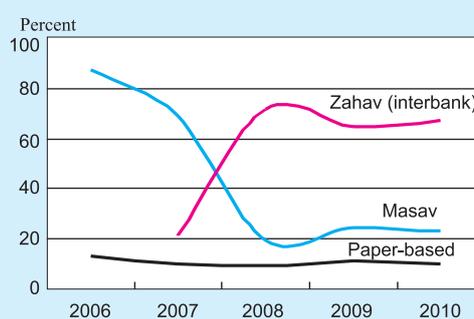
Kasefet is also used for transferring payment transactions to the Zahav system from Masav and from government offices and for transferring settlement data of the paper-based clearing house.

3. The payment system in Israel – data for 2010

In 2010 – approximately three years after implementing the Zahav system – most of the large interbank amounts were settled directly through the Zahav system. As shown in Figure 3, in the reviewed year about 67 percent of the total value of interbank transactions settled on all the payment systems was settled in the Zahav system, Masav settled 23 percent, and the paper-based clearing house settled 10 percent.

Table 1 below presents the value 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 on Masav increased by about 16 percent and the checks and manual transactions on the paper-based clearing house increased by about 9 percent. Regarding the number of transactions there is an evident significant increase of 37 percent in the number of

Figure 3
Distribution of the Clearing Houses' Activity, 2006-2010



SOURCE: Masav and Bank of Israel.

¹⁰ Kasefet is the name of the Inter Business Vault system of the Cyber Ark company.

interbank transactions in Zahav and an increase of 6.1 percent in credits in Masav;¹¹ the increase in the number of transactions on the paper-based clearing house – less than one tenth of a percent.

The significant increase in the number of transactions and in the values of the interbank transactions settled on the Zahav system is due to, inter alia, the campaign The Bank of Israel led during the year for increasing business awareness of the advantages of the Zahav system.

Table 1
The Clearing Houses' Activity, 2007 - 2010

	Zahav ^a		Masav ^b		Paper-based clearing house ^b		Total activity on clearing houses	Total alternative activity ^c
	Interbank	Other	Credits	Debits	Checks	Manual transmissions ^d		
	Value (NIS billions)							
2007	2,463	5,807	5,940	239	773	106	15,328	9,282
2008	6,402	15,472	1,473	266	800	26	24,439	8,701
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
	Number of transactions (thousands)							
2007	50	9	92,955	150,651	151,762	-	395,427	244,767
2008	193	23	96,316	157,895	135,348	485	390,260	232,342
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

^a The Zahav system began operating in July 2007.
^b Including returns.
^c Including interbank Zahav, credits in Masav and the paper-based clearing house.
^d Collection of data on the number of manual transmissions commenced in 2008.
Source: Masav and Bank of Israel.

¹¹ The increase in credits in Masav is mainly due to an increase in payments of institutions and in interbank payments. Table 6 provides details of the credits in Masav according to destination.



3.1 The payment systems operating in Israel

Presented hereunder are details regarding the major payment systems operating in Israel.

3.1.1 The Zahav system

Table 2 below shows that about 262 thousand transactions were settled in the Zahav system in 2010 with a total value of about NIS 75,784 billion; compared with about 198 thousand transactions with a total value of about NIS 62,304 billion in 2009 (an increase of 32 percent in the number of transactions and of 22 percent in total value). In 2010 there were about 229 thousand interbank transactions in the Zahav system, constituting an average of 757 transactions per business day,¹² and having a total value of about NIS 5,672 billion for the year; compared with about 167 thousand transactions constituting about 553 transactions per business day and having a total value of NIS 4,742 billion in 2009 (an increase of 37 percent in the average number of transactions per business day).

The average amount of one interbank transaction settled by the system was NIS 25 million in 2010, compared with NIS 28 million in 2009.

Table 2
Zahav System Activity^a, 2007 - 2010

	2007 ^b		2008		2009		2010	
	Total	Interbank	Total	Interbank	Total	Interbank	Total	Interbank
Value (NIS billions)								
Monthly average	1,634	490	1,823	533	5,192	395	6,315	473
Annual cumulative	8,270	2,463	21,874	6,402	62,304	4,742	75,784	5,672
Annual change (percent)	-	-	-	-	184.8	-25.9	21.6	19.6
Transactions (number)								
Monthly average	11,732	9,956	18,034	16,125	16,471	13,905	21,768	19,054
Annual cumulative	58,900	49,854	216,404	193,497	197,649	166,857	261,217	228,646
Annual change (percent)	-	-	-	-	-8.7	-13.8	32.2	37.0

^a The interbank transactions include the transactions of the banks and their customers.

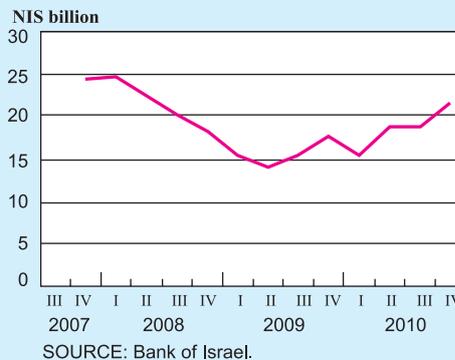
^b The Zahav system started operating in July 2007.

Source: Bank of Israel

¹² In 2010 there were 302 business days and in 2009 there were 303 business days.

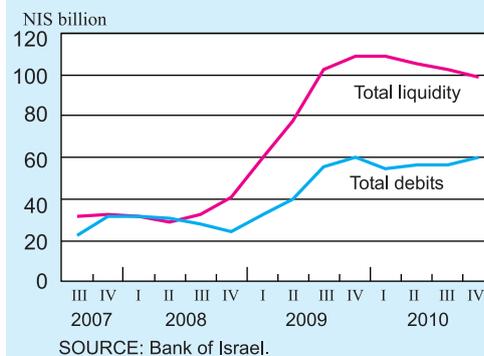
In 2008 and in the first two quarters of 2009 there was a slowdown in interbank activity¹³ in the Zahav system (Figure 4), which was reflected in a decline in the number of transactions settled in the system. This decline can be attributed to the general slowdown in the economy as a result of the global financial crisis. Also the inclusion of the new shekel in the CLS system as from May 2008 contributed to lowering the interbank amounts settled in the Zahav system, since part of the transactions that were settled in the system in the past as individual transactions are now combined in the CLS's account in the Zahav system. In the middle of 2009, along with the economy's recovery from the crisis, there was an increase in the number of transactions settled in the system, a trend that continued also in 2010.

Figure 4
Value of Interbank Transactions in the ZAHAV System, 2007-2010
(Daily average per quarter)



In 2010 there was a decrease of about 9 percent in the average daily value of liquidity in the Zahav system (Figure 5); in the last quarter of 2010 the daily average of liquidity in the accounts of the system's participants was NIS 99 billion, compared with NIS 109 billion in the last quarter of 2009. Nevertheless, the daily average in 2010 was about 19 percent higher than the daily average in 2009.

Figure 5
Total Liquidity and Total Debits in the ZAHAV System, 2007-2010
(Daily average per quarter)



As from the second half of 2009 there are signs of stability in the ratio between total debits¹⁴ and the amount of liquidity in the system, so that in the last quarter of 2010 the average daily ratio was about 60 percent; compared with about 55 percent in the last quarter of 2009, about 60 percent in the last quarter of 2008 and about 94 percent in the last quarter of 2007.

¹³ Interbank activity is composed of the activity of the banks in Israel, CLS and the Postal Bank.

¹⁴ Total debits settled in the participant's current account consist of bilateral payments sent to the system by the participant, in which the participant's current account is debited, and the account of another participant in the system is credited, as well as debits to the participant's current account which are included in multilateral payments from clearing houses.



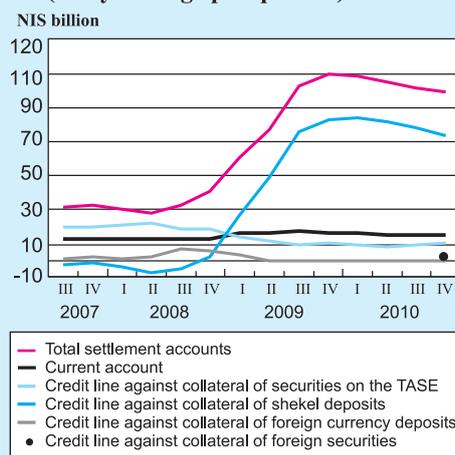
The changes in the value of liquidity can be attributed to the policy of The Bank of Israel of enhancing Israel's ability to withstand the effects of the global financial crisis. Such policy included, inter alia, the introduction of a plan to increase the foreign exchange reserves¹⁵ as from the end of the first quarter of 2008 and to purchase government bonds¹⁶ of different types and maturities as from February 2009.

The liquidity surpluses that flowed to the market as a result of the purchases of foreign currency were absorbed in 2008-2009 by means of deposit tenders to the commercial banks, which significantly increased the total liquidity of the participants in the Zahav system. In 2010 the Bank of Israel reduced the absorption through deposit tenders and increased the absorption through issuances of makam. Since the deposit tenders are executed in the Zahav system, whereas makam is issued in the stock exchange, reducing the use of deposit tenders is indeed reflected in the banks' liquidity in the Zahav system (Figure 6 below) whereas the increase in issuances of makam is not. Therefore, the decrease presented in the value of liquidity of the banks in the Zahav system does not indicate the liquidity situation of the commercial banks in Israel.

The Zahav system holds the settlement accounts of settlement participants. The participant's settlement account, which reflects its total liquidity in the system, consists of a current account used to settle (credit/debit) payments and its intraday credit (ICL – Intraday Credit Line) accounts. Among other things, the intraday credit accounts are composed of intraday credit the participant receives from Bank of Israel against collateral deposited in an account of Bank of Israel in the TASE clearing house and against the participant's deposits (in NIS and dollars) held at Bank of Israel. As from October 26, 2010 the participants in the Zahav system are permitted to receive credit from Bank of Israel also against collateral held in foreign securities.

Figure 6 presents the components included in the system's total liquidity and shows, as aforementioned, that in 2010 total liquidity decreased by about 9 percent. The decrease is due mainly to the decrease in the credit account against shekel deposits.

Figure 6
The ZAHAV System, Components of
the Clearing Account,
2007-2010
(Daily average per quarter)



SOURCE: Bank of Israel.

¹⁵ Bank of Israel press release from March 20, 2008.

¹⁶ Bank of Israel press release from March 25, 2009.

Table 3 below shows that the amounts settled in the Zahav system increased in the reviewed year by about 22 percent. Furthermore, there was an increase of about 32 percent in the number of transactions in the system.

Table 3
Activity in the Zahav System by Components, 2008-2010

	Interbank ^a			Clearing houses	Bank of Israel	Total
	Excluding CLS	Only CLS	Total			
Value (NIS billions)						
2008	5,894	508	6,402	7,506	7,966	21,874
2009	3,809	933	4,742	4,831	52,731	62,304
2010	4,575	1,097	5,672	4,294	65,818	75,784
Annual change (percent)	20.1	17.6	19.6	-11.1	24.8	21.6
Transactions (number)						
2008	185,584	7,913	193,497	8,948	13,959	216,404
2009	156,430	10,427	166,857	9,398	21,394	197,649
2010	217,872	10,774	228,646	10,707	21,864	261,217
Annual change (percent)	39.3	3.3	37.0	13.9	2.2	32.2

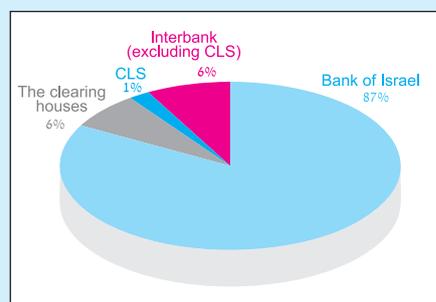
^a Activity in NIS in CLS began on May 26, 2008.
Source: Bank of Israel.

In 2010 the value of transactions settled by the clearing houses in the Zahav system amounted to NIS 4,294 billion and their number was 10,707. The activity of Bank of Israel in the Zahav system amounted to NIS 65,818 billion in 2010, an increase of about 25 percent from the previous year.

The increase in the activity of the Bank of Israel in the Zahav system is explained by an increase in the banks' deposits in Bank of Israel, which is due to absorbing cash surpluses from the market following the purchases of dollars by Bank of Israel (as shown in Figure 6 above).

Figure 7 presents the composition of the Zahav system's activity, of which Bank of Israel accounts for about 87 percent. The activity of Bank of Israel includes payment

Figure 7
Value of Activity of the ZAHAV System by Component, 2010



SOURCE: Bank of Israel.



transactions with respect to monetary tenders, providing intraday credit to the Zahav system participants, the government's activity, the shekel side of Bank of Israel's purchases of dollars in 2010, etc.

3.1.2 The banks' clearing house

3.1.2.1 The paper-based clearing house¹⁷

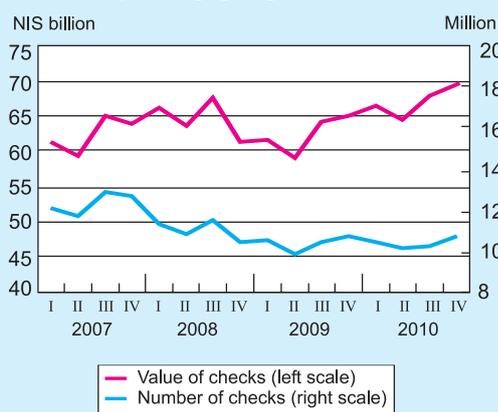
Table 4 below shows that in 2010 settlements in the paper-based clearing house amounted to about NIS 858 billion, compared with about NIS 787 billion in 2009 (an increase of 9 percent). In 2010 the number of transactions in the clearing house increased by 0.03 percent.

In 2010 the paper-based clearing house handled about 125 million transactions, of which 124.6 million were checks. Checks are now presented electronically and constitute about 99.7 percent of total settlements in the paper-based clearing house. The monthly average number of checks settled in the paper-based clearing house was 10.75 millions in 2010 (Figure 8).

The value of manual transactions in 2010 totaled about NIS 51 billion, compared with NIS 38 billion in 2009.

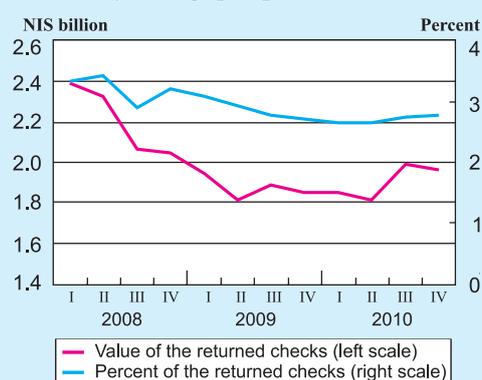
Figure 9 shows that the monthly average of returns was 2.7 percent throughout 2010, whereas the monthly average value of returns was between NIS 1.85 million and NIS 1.95 million.

Figure 8
Electronic Check-Clearing, 2007-2010
(Monthly average per quarter)



SOURCE: Bank of Israel.

Figure 9
Paper-Based Clearing House – Returned Checks, 2008-2010
(The Value and Percent of Returned Checks, Monthly average per quarter)



SOURCE: Bank of Israel.

¹⁷ The data included in "The paper-based clearing house" section refer only to interbank transactions.

Table 4
Paper-Based Settlement by Components, 2007-2010

	Manual transmissions ^a			Checks			Total in paper-based clearing house
	Debit	Credit	Total	Presented	Returned	Total	
Value (NIS billions)							
2007	55	51	106	749	24	773	879
2008	21	5	26	776	24	800	826
2009	29	9	38	727	22	749	787
2010	39	12	51	784	23	807	858
Annual change (percent)	34.5	33.3	34.2	7.8	4.5	7.7	9.0
Transactions (thousands)							
2007 ^b	-	-	-	148,254	3,508	151,762	151,762
2008	252	233	485	131,739	3,609	135,348	135,833
2009	229	270	499	121,258	3,249	124,507	125,006
2010	190	241	431	121,645	2,963	124,608	125,039
Annual change (percent)	-17.0	-10.7	-13.6	0.3	-8.8	0.1	0.03

^a Following a change in the method of estimation, the number of manual transmissions presented here is different from the number presented in the reports of previous years.
^b Data was not collected in 2007 regarding the number of manual transmissions.
Source: Bank of Israel

The number of returned checks increased in the second half of 2010, after the decline that occurred since 2008. The annual cumulative rate of returned checks in the paper-based clearing house was 2.9 percent in 2010, compared with 3 percent in 2009.

3.1.2.2 Masav

According to the directives of Bank of Israel, as from July 1, 2010 payments higher than NIS 1 million are to be settled directly in the Zahav system (and not in Masav),¹⁸ except in extraordinary circumstances defined by Bank of Israel.¹⁹

The sharp drop in the value of transactions in Masav in the second half of 2007, which can be seen clearly in Figure 10, can be attributed to the inauguration of the Zahav system; whereas the number of transactions continued to increase in 2006-2010.

¹⁸ The maximum amount permitted in Masav was NIS 3 million from the date the Zahav system began operating until June 2010. On February 6, 2010 the head of the comptroller's office issued an instruction lowering this amount to NIS 1 million as from July 1, 2010.

¹⁹ As specified in a letter from the head of the comptroller's office dated November 22, 2007.

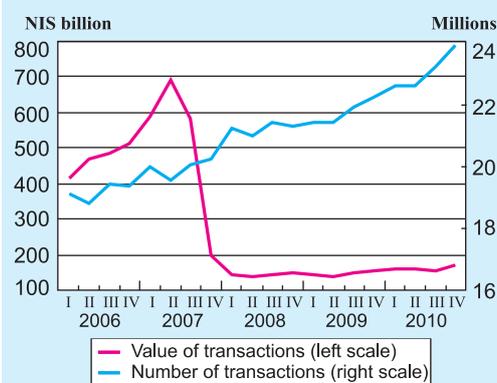


The number of institutions operating in Masav increased by about 5 percent in 2010 – in December 2010 there were 31,359 active institutions listed in Masav compared with 29,831 institutions in December 2009.

In 2010 the activity of Masav increased – both in value (by about 10 percent) and in number of transactions (by about 6 percent) (Table 5). The value of transactions cleared in Masav was about NIS 1,958 billion in 2010 (compared with about NIS 1,779 billion in 2009), of which credits amounted

to about NIS 1,635 billion, debits to about NIS 317 billion, returns of debits to about NIS 4.6 billion and returns of credits to about NIS 1 billion. The increase in transactions in Masav is due to both the credits component and the debits component – an increase of about 9 percent and 17 percent, respectively. The average value of a transaction in Masav was NIS 7,080 in 2010.

Figure 10
Masav Activity, 2006-2010
(Monthly average per quarter)



SOURCE: Bank of Israel.

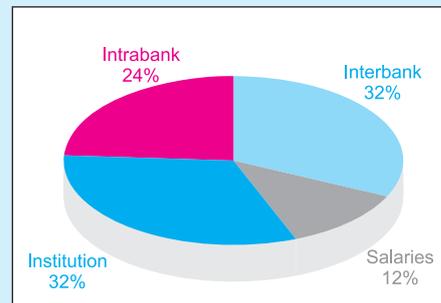
Table 5
Masav by Components, 2007-2010

	Credits	Debits	Returned credits ^a	Returned debits	Total
Values (NIS billions)					
2007	5,940	235	-	3.9	6,179
2008	1,473	261	-	4.9	1,739
2009	1,502	271	-	5.5	1,779
2010	1,635	317	1	4.6	1,958
Annual change (percent)	8.9	17.0	-	-16.4	10.1
Transactions (thousands)					
2007	92,955	146,116	-	4,535	243,606
2008	96,316	152,892	-	5,003	254,211
2009	97,478	157,749	-	5,395	260,622
2010	103,326	168,186	104	4,926	276,542
Annual change (percent)	6.0	6.6	-	-8.7	6.1

^a Returned credits are settled via Masav, instead via the paper-based clearing house, since December 2009.
Source: Masav.

Table 6 shows that the aforesaid increase in the credits component derives from an increase in the value of transactions of institutions and of interbank transactions; the activity of the institutions increased by about 10 percent, and the inter-bank activity increased by about 20 percent. Furthermore, this table and Figure 11 show that most of the credit transactions transferred for clearing in the Masav system in 2010 were salary transfers (about 54 percent), although the monetary value of the salary component was the lowest (about 12 percent). Conversely, the number of interbank transactions was the lowest (about 11 percent), but their value was the highest (about 32 percent).

Figure 11
Masav – Credits by Destination
2010



SOURCE: Masav.

Table 6
Masav - Credits by Destination, 2009 and 2010

	Interbank	Wages	Institutions	Intrabank	Total credits
Values (NIS billions)					
2009	518	181	480	323	1,502
2010	528	191	527	389	1,635
Annual change (percent)	1.9	5.5	9.8	20.4	8.9
Transactions (thousands)					
2009	9,119	53,862	22,369	12,128	97,478
2010	11,455	55,595	24,446	11,830	103,326
Annual change (percent)	25.6	3.2	9.3	-2.5	6.0

Source: Masav.

3.1.3 The TASE clearing houses

According to data of the TASE presented in Table 7 below, the volume of trade handled by the TASE clearing houses totaled about NIS 1,586 billion in 2010, compared with about NIS 1,596 billion in 2009 (a decline of about 0.6 percent). In the current year the component of government bonds decreased by about 27 percent, whereas trade in shares and convertibles increased by about 18 percent. The makam increased significantly by



about 82 percent, following issuances of makam by The Bank of Israel (in order to absorb surplus liquidity in the market following purchases of foreign currency). The decline in government bonds can be attributed to the recovery from the financial crisis, which led many to invest in higher risk channels bringing a return higher than the return on government bonds, meaning – investments in shares and convertibles.

Table 7
Trading Volumes in Securities, 2006-2010

	Shares and convertibles	Bonds			Makam	Total
		Govt.	Other	Total		
Values (NIS billions)						
2006	360	356	68	424	198	982
2007	506	636	165	801	207	1,514
2008	481	761	224	985	192	1,658
2009	423	789	223	1,012	160	1,595
2010	498	579	218	797	291	1,586
Annual change (percent)	17.7	-26.6	-2.2	-21.2	81.9	-0.6

Source: TASE.

3.1.4 CLS system

In 2010, the CLS settled about Dollar 1,074 trillion, compared with about Dollar 870 trillion in 2009 (an increase of about 23 percent). In 2010 CLS settled an average of about Dollar 4.1 trillion daily, compared with about Dollar 3.4 trillion in 2009 (an increase of about 21 percent).

CLS handled In 2010 shekel transactions of about Dollar 294 billion (about NIS 1,097 billion) – about 0.27 percent of the total amount settled by CLS during the year. The total daily average settlement in the new shekel currency in 2010 was about Dollar 1.2 billion (about NIS 4.4 billion).

3.1.5 Payment card companies

The number of payment card transactions was 742 million²⁰ in 2010 with a total value of about NIS 176 billion – about 9 percent higher than last year. The average payment card transaction this year was NIS 237.

²⁰It should be emphasized that the number of transactions shown in this table includes all the transactions listed in the customers' statements, whereas the other debits in the public's current accounts only list debits recorded in the current account (Table 8).

Table 8 below presents shekel data of transactions, including withdrawals of cash by means of payment cards and activity for obtaining information. The data in Table 8 do not include purchases and cash withdrawals in foreign currency.

Table 8
Use of Payment Cards, 2005-2010

	Values (NIS billion)	Transactions (millions)	Annual change in value (percent)
2005	113	482	10.4
2006	126	532	11.5
2007	139	585	10.3
2008	154	641	10.8
2009	161	685	4.5
2010 ^a	176	742	9.3

^a Q4 data: estimate.

Source: Banking Supervision Department, Bank of Israel.

3.2 Means of payment

The debits of the public's current accounts include checks, cash withdrawn at ATMs and banks, authorized debits (executed through Masav) and other types of debits. Other types of debits include electronic debits and credits (through Zahav and Masav), activity by payment cards, payments by internet, and other business transactions between the customer and the bank, such as the purchase of securities, the purchase of foreign currency and bank charges.

The debits of the public's current accounts (Table 9) totaled about NIS 19,892 billion in 2010, compared with about NIS 18,058 billion in 2009. The total value of debits of current accounts held by the public increased by about 10 percent in 2010. Debits by check and debits by cash withdrawals increased this year by about 5 percent each, and authorized debits increased by about 12 percent. Also other debits increased by about 10 percent.

It should be mentioned that the data on the public's current accounts differ from the data presented in Tables 4 and 5, since those tables present only interbank transactions, whereas the data in Table 9 include all the transactions, including those settled inside the banks and did not pass through the interbank clearing houses.



Table 9
Debits Against The Public's Current Accounts, 2005–2010

	Checks ^a	Cash withdrawals	Direct debits	Other debits	Total
Values (NIS billions)					
2005	821	137	471	13,731	15,160
2006	888	143	527	15,910	17,468
2007	970	158	572	21,051	22,751
2008	924	163	633	19,754	21,474
2009	860	175	649	16,374	18,058
2010	906	184	728	18,074	19,892
Annual change (percent)	5.3	5.1	12.2	10.4	10.2
Transactions (millions)					
2005	164	134	163	274	735
2006	163	138	171	304	776
2007	165	140	178	343	826
2008	159	135	187	338	819
2009	152	131	195	305	783
2010	151	130	203	322	806
Annual change (percent)	-0.7	-0.8	4.1	5.6	2.9

^a Including returned checks.

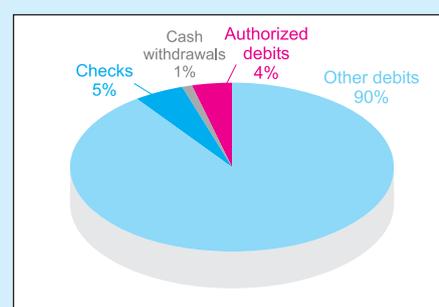
Source: Banking Supervision Department, Bank of Israel.

Figure 12 clearly shows that the other debits are the major part of the means of payment used (about 90 percent), with checks accounting for about 5 percent, authorized debits accounting for about 4 percent, and cash withdrawals accounting for only 1 percent of the means of payment used.

3.2.1 Use of checks

According to the reports from banks (Table 10) about 150,865 thousand checks were drawn by Israelis in 2010, of which about 125,039 thousand were presented in the interbank clearing house (Table 4), and the rest (about 25,826 thousand) were deposited

Figure 12
Means of Payment used (Value)
2010



SOURCE: Bank of Israel.

in the banks from which they were drawn.

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

The average amount of a check was NIS 6,005 in 2010, compared with NIS 5,665 last year. The high average amount of a check is due to the fact that checks are still being used for large payments, such as tax payments of businesses.

Table 10
Checks Drawn and Checks Returned, 2005-2010

	Checks drawn	Checks returned	Return rate (percent)
Values (NIS millions)			
2005	820,666	22,751	2.8
2006	887,536	23,013	2.6
2007	970,363	26,475	2.7
2008	924,131	28,169	3.0
2009	859,666	28,134	3.3
2010	905,949	27,392	3.0
Annual change (percent)	5.4	-2.6	-9.1
Transactions (thousands)			
2005	164,179	3,989	2.4
2006	163,013	4,132	2.5
2007	164,600	4,168	2.5
2008	159,347	4,394	2.8
2009	151,748	4,174	2.8
2010	150,865	3,821	2.5
Annual change (percent)	-0.6	-8.5	-10.7

Source: Banking Supervision Department, Bank of Israel.

Of the checks drawn in 2010 about 3,821 thousand were returned (2.5 percent of the total number compared with 2.8 percent last year). Of the total value of checks drawn (NIS 905,949 million), about 3 percent were returned compared with 3.3 percent in 2009. About half of the checks were returned because of insufficient coverage, and half were returned for other reasons (for example checks presented after their validity date, an unrecognized signature, etc.).



Table 11 below presents the value and number of checks drawn and presented in 2010 by month:

Table 11
Checks Drawn and Checks Returned, 2010

	Checks drawn	Checks returned	Return rate (percent)
Values (NIS millions)			
January	76,128	2,242	2.9
February	63,768	2,138	3.4
March	82,567	2,387	2.9
April	68,433	2,115	3.1
May	75,360	2,273	3.0
June	74,219	2,170	2.9
July	76,099	2,342	3.1
August	80,620	2,479	3.1
September	67,628	1,951	2.9
October	80,672	2,341	2.9
November	78,304	2,439	3.1
December	82,151	2,515	3.1
Transactions (thousands)			
January	12,488	318	2.5
February	10,778	278	2.6
March	14,430	338	2.3
April	11,440	302	2.6
May	12,891	317	2.5
June	12,546	303	2.4
July	12,347	310	2.5
August	12,894	336	2.6
September	11,399	278	2.4
October	13,440	352	2.6
November	13,136	336	2.6
December	13,076	353	2.7

Source: Banking Supervision Department, Bank of Israel.

3.2.2 Cash

According to the data presented in Table 12 below cash withdrawals by the public totaled about NIS 184 billion, compared with NIS 175 billion last year (an increase of about 5 percent). Cash accounted for about one percent of all current account debits by the public – the same as last year.

Despite the increase in the use of payment cards, prepaid cards, the internet and more, the use of cash as a means of payment does not seem to be in decline; quite the contrary: cash withdrawals increased from 2005 until 2010 at a rate of about 34 percent.

Table 12
Cash, 2005-2010

	Cash withdrawals		Cash held by the public	
	Annual amount (NIS billion)	Annual change (percent)	Annual amount (NIS billion)	Annual change (percent)
2005	137	-	19	-
2006	143	4.4	21	10.5
2007	158	10.5	23	9.5
2008	163	3.2	27	17.4
2009	175	7.4	34	25.9
2010	184	5.1	37	8.8

Source: Banking Supervision Department, Bank of Israel.

3.2.3 Authorized debits

According to Table 13 below, there were about 203 million authorized debits in 2010, with a value totaling NIS 728 billion, compared with 195 million transactions and a value of about NIS 649 billion last year (an increase of 12 percent in value and of 4 percent in number of transactions).

The value of authorized debits has increased by about 55 percent since 2005 until 2010 and constitutes about 4 percent of total debits in current accounts held by the public. The table shows that in 2010 the annual increase in authorized debits was relatively high compared to last year – about 12 percent compared with 2.5 percent.



Table 13
Authorized Debits, 2005-2010

	Values (NIS billions)	Transactions (millions)	Annual change in value (percent)
2005	471	163	-
2006	527	171	11.9
2007	572	178	8.5
2008	633	187	10.7
2009	649	195	2.5
2010	728	203	12.2

Source: Banking Supervision Department, Bank of Israel.

3.2.4 Other debits

Other debits of the public's current accounts are not classified and mainly include one-time orders for the transfer of funds to an account of the same customer or that of a different customer, debits resulting from business transactions between the customer and the bank (e.g., interest payments, commissions on the purchase of securities or foreign currency), orders to debit an account using a payment card²¹ and payments made by the public in the Zahav system.

Other debits totaled NIS 18,074 billion for the reviewed year, compared with NIS 16,374 billion in the previous year (Table 9 above). In 2010 other debits accounted for about 90 percent of total debits in current accounts held by the public.

²¹ Some of the banks include this in authorized debits.