

In line with the design and implementation of electronic payment systems and adoption of a risk-based oversight approach on different electronic segments of payment systems, CBI developed the foundation for an electronic data-based supervisory framework on banks. In this context, several different electronic information and operational subsystems were developed and executed in 1393, notable among them were: CHAKAVAK (Electronic System for Checks Image Transfer and Clearance) as of the second half of 1393, SAYAD (Bank-wide Standard E-checkbook Issuance), development of MAKNA (Credit Control and Oversight Center), operationalization of SIAM (Integrated System for Financial Inquiries), design of ACUMS (Asian Clearing Union Messaging System), operationalization of NAMAD (Information Security Management System), design of SEPAM-based system of rial LGs (Letters of Guarantee), and development of NAHAB (Electronic Banking Authentication System) which is connected to National Organization for Civil Registration database and postal coding inquiry system. These developments aimed

at improved oversight and supervision of banks and interbank transactions. Moreover, in 1393, the National Project of Goods Basket Delivery to the subscribers of SHAPARAK (Electronic Card Payment and Settlement) system was made operational and measures were adopted for banks' cardholders to be compensated for losses and account discrepancies resulting from failed SHETAB transactions.

### Cash Payment

#### *Notes and Coins*

Banknotes and coins act as direct instruments for cash payment. With the inclusion of Central Bank Iran-Checks, total notes and coins issued in 1393 amounted to Rls. 447.5 trillion. Notes and coins with the public (including CBI Iran-Checks) increased by 5.3 percent from Rls. 334.1 trillion in 1392 year-end to Rls. 351.7 trillion at end-1393. Thus, the ratio of notes and coins with the public to GDP (at current prices) decreased by 0.3 percentage point compared with 1392, to reach 3.3 percent.

**Table 14.1. Notes and Coins with the Public and their Ratio to Macroeconomic Indicators**

	Value (trillion rials)	Percentage change (annual)	Share in money (percent)	Share in liquidity (percent)	Ratio to GDP (percent)	Notes and coins per capita (thousand rials)
1392	334.1	1.2	27.9	5.2	3.6	4,342
1393	351.7	5.3	29.1	4.5	3.3	4,517

**Sight Deposits**

Total sight deposits reached Rls. 855.9 trillion at end-1393, showing 0.7 percent decrease compared with the year before. Shares of sight deposits in money and liquidity were 70.9 and 10.9 percent, respectively, and their ratio to GDP was 7.9 percent (at current prices). Moreover, sight deposits per capita reached Rls. 10,993 thousand, showing 1.9 percent reduction compared with the preceding year. Due to the rise in the value of notes and coins with the public and reduction in sight deposits, total money supply (including notes and coins with the public plus sight deposits) slightly increased by 1.0 percent from Rls. 1,196.0 trillion at the end of 1392 to Rls. 1,207.6 trillion in 1393 year-end.

**Check Settlement System**

Due to presence of multiple difficulties in the banking system in terms of high volume of bounced checks, lengthy and irregular circulation of checks, issuance of unconventional checkbooks, lack of comprehensive and real time information, difficulties in monitoring checks' operating procedures, delays in checks' settlement processes, security issues in checks' physical delivery, difficulties in connecting the manual clearance system of checks to Real Time Gross Settlement System (SATNA), complexities regarding the mechanized processing of checks, and frequent errors and failures associated with the conventional methods of

checks' processing, the development of an electronic infrastructure for checks' settlement was conceived to be unavoidable. Therefore, in late 1391<sup>1</sup>, the MCC approved and announced a plan for the development of an electronic infrastructure for interbank payment orders and checks' settlement (elimination of checks' physical circulation). This plan aimed at monitoring banks' liquidity position, facilitating connection to interbank settlement systems, and gradually replacing the traditional cumbersome operations of the interbank clearing house, which previously used to clear checks physically and manually on behalf of CBI. Therefore, CBI implemented the national CHAKAVAK project with the aim of organizing checks' settlement, enhancing supervisions on checks' processing, and replacing the Interbank Clearing House as of the second half of 1393. With the implementation of CHAKAVAK as the infrastructure of systematic and electronic processing of checks and other banking documents and the gradual coverage of 27 provinces until end-1393, check clearance processes were executed through both CHAKAVAK and the Interbank Clearing House. Hence, the number of checks cleared in the Interbank Clearing House declined by 12.3 percent compared with 1392 and reached 104.6 million. The value of these checks also decreased by 6.5 percent to Rls. 16,779 trillion. In contrast, the total number of checks cleared through CHAKAVAK system came to 21.4 million with a value

**Table 14.2. Sight Deposits and their Ratio to Macroeconomic Indicators**

	Value (trillion rials)	Percentage change (annual)	Share in money (percent)	Share in liquidity (percent)	Ratio to GDP (percent)	Sight deposits per capita (thousand rials)
1392	861.9	6.9	72.1	13.5	9.2	11,202
1393	855.9	-0.7	70.9	10.9	7.9	10,993

<sup>1</sup> Subject of Letter No. M91/353674 dated Esfand 26, 1391.

of Rls. 7,551.9 trillion in 1393. Therefore, total number of checks processed via both systems increased by 5.6 percent to 126 million, and total value of these checks amounted to Rls. 24,330.9 trillion, up by 35.6 percent. Therefore, the average value of each transaction grew by 28.3 percent to Rls. 193,042 thousand compared with the corresponding figure for the previous year (Rls. 150,418 thousand).

### Electronic Payment System

#### *Expansion of Electronic Payment Instruments*

In 1393, the number of cards issued in the banking sector grew by 19.6 percent to 333.9 million. Among these cards, 223.0 million were debit cards (66.8 percent), 109.2 million were prepaid cards in the form of purchase and gift cards (32.7 percent), and merely 1.7 million were credit cards (0.5 percent). The number of cards issued in the country for each individual went up from 3.6 at end-1392 to 4.3 in 1393 year-end.

The number of ATMs increased by 19.5 percent to 40,369 in 1393. The number of PIN pads (electronic devices used in debit, credit, or smart card-based transactions) rose 16.4 percent to 65,337. The number of POSs surged by 19.7 percent to 3,721 thousand which, compared with the lower increase in the number of ATMs, signifies the positive

trend of the banking sector in expanding electronic payments.

**Table 14.4. Number of Electronic Payment Instruments**

	Year-end		Percentage change
	1392	1393	
Bank cards (thousand)	279,058	333,891	19.6
ATM	33,773	40,369	19.5
POS	3,109,507	3,721,023	19.7
PIN pad	56,152	65,337	16.4

#### *Development of Electronic Transactions*

In 1393, total volume and value of electronic transactions settled through the banking sector reached 12,783 million and Rls. 28,693 trillion, respectively. The volume of electronic transactions processed through ATMs and POSs during this year grew by 19.1 and 39.5 percent, respectively. Accordingly, the value of electronic transactions processed through ATMs and POSs increased by 73.0 and 41.5 percent. During 1393, the volume and value of transactions processed through PIN pads increased by 30.9 and 37.4 percent. Moreover, the volume and value of transactions processed through cell phones, landlines, kiosks, and internet increased by 47.2 and 111.0 percent. Total volume of transactions per card was 38.3, indicating growth when compared with 34.7 transactions in 1392.

**Table 14.3. Volume and Value of Transactions Processed through Checks**

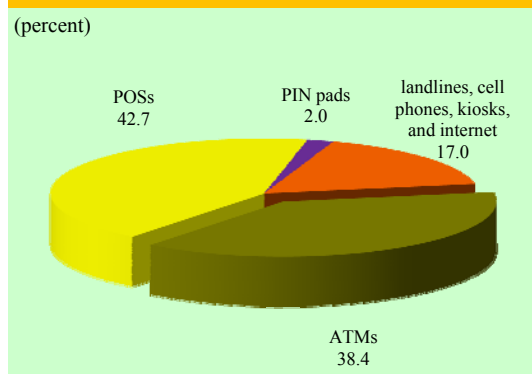
	Volume (million)		Percentage change	Value (trillion rials)		Percentage change
	1392	1393		1392	1393	
CHAKAVAK	–	21.4	–	–	7,551.9	–
Interbank Clearing House	119.3	104.6	-12.3	17,949.6	16,779.0	-6.5
<b>Total</b>	<b>119.3</b>	<b>126.0</b>	<b>5.6</b>	<b>17,949.6</b>	<b>24,330.9</b>	<b>35.6</b>

## Chapter 14 PAYMENT SYSTEMS

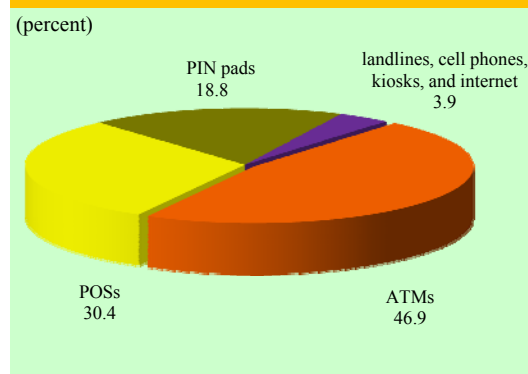
Share of ATMs in total volume and value of electronic transactions processed through the banking sector was 38.4 and 46.9 percent, and share of POSs in total volume and value of electronic transactions was 42.7 and 30.5 percent, respectively. Share of ATMs in total volume of electronic transactions decreased by 4.1 percentage points while shares of POSs, cell phones, landlines, kiosks, and internet increased. This shows the growing public tendency towards the

wider use of new electronic payment instruments in daily transactions. It is expected that with the extensive use of credit and prepaid cards, as well as more availability of electronic payment instruments throughout the country, the share of electronic transactions will increase and the use of cash will decrease in the future. Furthermore, PIN pads enjoyed 2.0 and 18.8 percent share in total volume and value of electronic transactions in 1393.

**Figure 14.1. Share of electronic payment instruments in total volume of electronic transactions in the banking sector in 1393**



**Figure 14.2. Share of electronic payment instruments in total value of electronic transactions in the banking sector in 1393**



**Table 14.5. Bank Cards**

	Number (thousand)		Growth (percent)	Share (percent)		Change in share (percentage points)
	1392	1393		1392	1393	
Debit cards	189,825	223,015	17.5	68.0	66.8	-1.2
Credit cards	2,237	1,684	-24.7	0.8	0.5	-0.3
Prepaid cards	86,996	109,193	25.5	31.2	32.7	1.5

**Table 14.6. Volume and Value of Electronic Transactions Processed through the Banking Sector**

	Volume (million)		Growth (percent)	Value (trillion rials)		Growth (percent)
	1392	1393		1392	1393	
<b>Total electronic transactions</b>	<b>9,696</b>	<b>12,783</b>	<b>31.8</b>	<b>18,405</b>	<b>28,693</b>	<b>55.9</b>
ATM	4,120	4,908	19.1	7,780	13,457	73.0
POS	3,910	5,453	39.5	6,177	8,739	41.5
PIN pad	194	254	30.9	3,922	5,387	37.4
Cell phone, landline, kiosk, and internet	1,472	2,167	47.2	526	1,110	111.0

The Interbank Information Transfer Network (SHETAB) plays a key role in processing electronic transactions in the banking sector. The share of SHETAB center in the total volume and value of electronic transactions processed through the banking sector was 82.1 and 57.9 percent, respectively, indicating rise in terms of volume and fall in terms of value when compared with the corresponding figures in the year before (80.6 and 61.1 percent).

### Electronic Settlement System

#### SAHAB

The Retail Funds Transfer System (SAHAB) helped the transfer of 673 million transactions through ATMs in 1393, indicating 50.4 percent growth compared with the year before. Furthermore, 34 million transactions processed through PIN pads were related to SAHAB. The volume of

transactions processed through SAHAB via the internet and kiosks increased by 91.5 percent. Shares of ATMs, PIN pads, and internet and kiosks in total volume of transactions processed through SAHAB were 84.2, 4.2, and 11.6 percent and, in terms of value, 67.1, 24.5, and 8.4 percent, respectively.

#### SATNA

Total volume of transactions processed through RTGS (Real Time Gross Settlement) System or SATNA, as the main infrastructure for large-value payments, increased by 33.8 percent to 6.4 million. Moreover, total value of transactions processed through SATNA reached Rls. 44,414 trillion, indicating 29.0 percent growth compared with 1392. Total volume of customer-to-customer transactions processed through SATNA increased by 33.9 percent to 6.0 million and value of customer-to-customer transactions increased by 38.6

**Table 14.7. Volume and Value of Interbank Transactions Processed through SHETAB**

	Volume (million)		Growth (percent)	Value (trillion rials)		Growth (percent)
	1392	1393		1392	1393	
<b>Total transactions through SHETAB<sup>1</sup></b>	<b>7,816</b>	<b>10,499</b>	<b>34.3</b>	<b>11,236</b>	<b>16,601</b>	<b>47.8</b>
ATM	2,404	2,832	17.8	3,665	5,247	43.2
POS	3,910	5,453	39.5	6,177	8,739	41.5
Others (landline, cell phone, internet, kiosk, and branches)	1,502	2,214	47.4	1,394	2,615	87.6

<sup>1</sup>Includes interbank electronic transactions processed through SAHAB.

**Table 14.8. Volume and Value of Transactions Processed through SAHAB**

	Volume (million)		Growth (percent)	Value (trillion rials)		Growth (percent)
	1392	1393		1392	1393	
<b>Total transactions through SAHAB</b>	<b>517</b>	<b>799</b>	<b>54.6</b>	<b>3,827</b>	<b>6,118</b>	<b>59.9</b>
ATM	448	673	50.4	2,700	4,107	52.1
PIN pad	21	34	60.0	863	1,496	73.3
Internet and kiosk	48	92	91.5	264	515	95.2

percent to Rls. 11,413 trillion. Accordingly, total volume and value of bank to bank transactions increased by 95.6 and 101.1 percent, respectively. The volume and value of other subsystem transactions (SHETAB, Interbank Clearing House, and PAYA), processed through SATNA, rose by respectively 19.0 and 13.9 percent to reach 250 thousand transactions and Rls. 25,713 trillion.

**PAYA**

The Automated Clearing House System (PAYA), as one of the infrastructures of interbank transactions, receives payment orders from the originating bank and after processing, sends orders to the destination bank. Accordingly, upon the launching of SHAPARAK, completion of transactions and the transfer of funds to accounts of goods' and services' suppliers were directed through the PAYA system. Moreover, with the possibility of processing direct transfer

orders through PAYA, this system together with SATNA and SAHAB, covered and processed all electronic funds transfer orders. SATNA and PAYA are utilized for bank to bank transfer of funds, while SAHAB is used for card to card retail funds transfer. In 1393, about 26 million banking transactions worth Rls. 3,000 trillion were processed through PAYA in the form of credit transfer, indicating 29.6 percent growth in volume. Their value, however, decreased by 13.3 percent, mainly due to the imposition of a ceiling of Rls. 500 million on transactions channeled through PAYA<sup>1</sup>.

**Total Value of Transactions**

Nominal value of total transactions surged by 40.3 percent in 1393 and reached Rls. 67,437 trillion. Moreover, the real value of total transactions (considering 15.6 percent growth in CPI) increased by 21.5 percent.

**Table 14.9. Volume and Value of Transactions Processed through SATNA**

	Volume (thousand)		Growth (percent)	Value (trillion rials)		Growth (percent)
	1392	1393		1392	1393	
Bank to bank	44	86	95.6	3,623	7,288	101.1
Customer-to-customer	4,496	6,020	33.9	8,235	11,413	38.6
Clearing settlement systems (SHETAB, Interbank Clearing House, and PAYA)	211	250	19.0	22,570	25,713	13.9
<b>Total<sup>1</sup></b>	<b>4,750</b>	<b>6,356</b>	<b>33.8</b>	<b>34,429</b>	<b>44,414</b>	<b>29.0</b>

<sup>1</sup> Excludes intraday liquidity facility and settlement by the CBI.

**Table 14.10. Volume and Value of Transactions Processed through PAYA**

	Volume (million)		Growth (percent)	Value (trillion rials)		Growth (percent)
	1392	1393		1392	1393	
Credit transfer	20	26	29.6	3,460	3,000	-13.3
SHAPARAK	855	1,237	44.7	5,921	9,187	55.2
<b>Total</b>	<b>875</b>	<b>1,263</b>	<b>44.4</b>	<b>9,381</b>	<b>12,187</b>	<b>29.9</b>

<sup>1</sup> Subject of Letter No. 93/226468 dated Aban 24, 1393, Payment Systems Department, CBI.

Issuance of CBI Iran-Checks raised the volume of notes and coins in public possession. Due to unrestricted circulation in cash transactions and unaccounted circulation frequency, CBI Iran-Checks are not included in calculation of total transactions. While the number of total transactions through various kinds of checks was lower than the year before, the value of electronic transactions increased in 1393. Therefore, share of transactions through various kinds of checks in total value of transactions decreased by 1.3 percentage points while share of electronic transactions in total value of transactions increased, in nominal terms. However, as in previous years, checks still had the highest share in total value of transactions by 36.1 percent. ATM transactions, up by 73.0 percent compared with the year before, accounted for 11.8 percentage points of the growth in total value of transactions. Thus, share of ATMs in total value of transactions increased by 3.8 percentage points to 20.0

percent in 1393. The share of the value of customer-to-customer transactions processed through SATNA decreased from 17.1 percent in 1392 to 16.9 percent in 1393. Value of transactions through POSs increased by 41.5 percent. Moreover, share of POS transactions in total rose by 0.1 percentage point to 13.0 percent. The value of transactions processed through PAYA, with 13.3 percent decrease compared with the year before, accounted for 4.4 percentage points share of total value of transactions.

### Share of Non-cash Payment Instruments

Development of electronic banking and expansion of electronic payment instruments reduced the share of volume of transactions through various checks in total volume of non-cash transactions by 0.3 percentage point. On the other hand, share of bank cards in the total volume of non-cash transactions increased by 0.4 percentage point. In this

**Table 14.11. Total Value of Transactions Processed through the Banking Sector**

	Value (trillion rials)		Growth (percent)	Share in growth (percentage points)	Share in total value of transactions (%)		Change in share (percentage points)
	1392	1393			1392	1393	
Various checks <sup>1</sup>	17,950	24,331	35.6	13.3	37.4	36.1	-1.3
ATM	7,780	13,457	73.0	11.8	16.2	20.0	3.8
POS	6,177	8,739	41.5	5.3	12.9	13.0	0.1
PIN pad	3,922	5,387	37.4	3.1	8.2	8.0	-0.2
SATNA (customer-to-customer)	8,235	11,413	38.6	6.6	17.1	16.9	-0.2
PAYA (credit transfer)	3,460	3,000	-13.3	-1.0	7.2	4.4	-2.8
Cell phone, landline, kiosk and internet	526	1,110	111.0	1.2	1.1	1.6	0.6
<b>Total transactions (nominal)</b>	<b>48,049</b>	<b>67,437</b>	<b>40.3</b>	<b>40.3</b>	<b>100.0</b>	<b>100.0</b>	
<b>Total transactions (real) <sup>2</sup></b>	<b>27,319</b>	<b>33,181</b>	<b>21.5</b>				

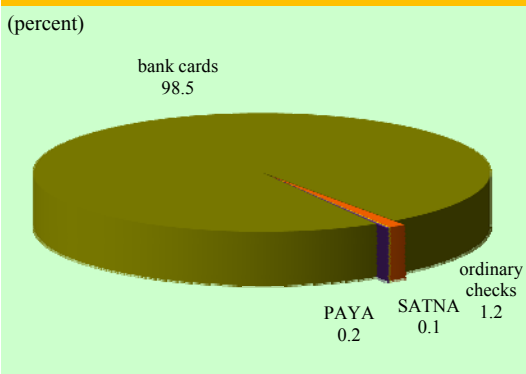
<sup>1</sup> Includes only bank to bank transactions processed through the Interbank Clearing House and CHAKAVAK system and excludes intra-bank transactions.

<sup>2</sup> CPI is used for the calculation of total transactions in real terms (1390=100).

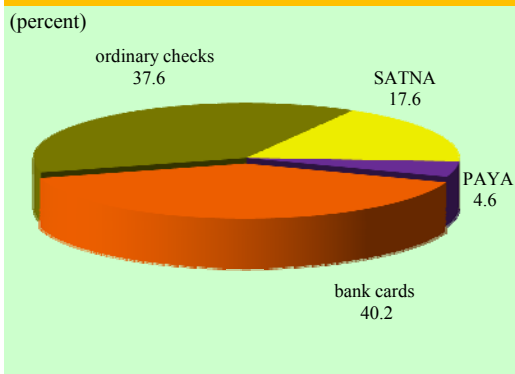
year, of total volume of non-cash transactions, 98.5 percent was related to bank cards, 1.2 percent to ordinary checks, and 0.3 percent to PAYA and SATNA. The average value of each transaction settled through bank cards reached Rls. 2,488 thousand, constituting almost 40.2 percent of total value of non-cash transactions. Moreover, the high average value of each transaction settled through ordinary checks at Rls. 193.0 million brought the share of these checks in total value of non-cash transactions to 37.6 percent.

The customer-to-customer transactions through SATNA accounted for 0.1 percent of total volume of non-cash transactions, in 1393. As transactions through SATNA were mostly large-value transactions, with a high average value of Rls. 1,896.1 million per transaction, these transactions accounted for 17.6 percent of total value of non-cash transactions. In this year, total share of ordinary checks, PAYA, and SATNA in the value of non-cash transactions declined by 4.5 percentage points while the share of cards increased by 4.5 percentage points.

**Figure 14.3. Share of non-cash payment instruments in total volume of non-cash transactions in 1393**



**Figure 14.4. Share of non-cash payment instruments in total value of non-cash transactions in 1393**



**Table 14.12. Share of Non-cash Payment Instruments in Total Volume and Value of Non-cash Transactions**

	Share in total volume (percent)		Share in total value (percent)		Average value per transaction (thousand rials)	
	1392▲	1393	1392▲	1393	1392▲	1393
Bank cards <sup>1</sup>	98.1	98.5	35.7	40.2	2,152	2,488
Ordinary checks <sup>2</sup>	1.5	1.2	38.9	37.6	150,418	193,042
SATNA (customer-to-customer)	0.1	0.1	17.9	17.6	1,831,736	1,896,054
PAYA (credit transfer)	0.3	0.2	7.5	4.6	173,465	116,061
<b>Total non-cash transactions</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>5,918</b>	<b>6,104</b>

<sup>1</sup> Includes transactions processed through POS, PIN pad, cell phone, landline, kiosk, internet, and ATM (excluding cash withdrawals).  
<sup>2</sup> Includes only ordinary checks channeled through the Interbank Clearing House and CHAKAVAK system. Excludes intra-bank documents.