

VII. PAYMENT AND SETTLEMENT SYSTEMS

In 2004, preparations to join the Trans-European Automated Real Time Gross Settlement Express Transfer (TARGET) System continued. TARGET will ensure for Estonia as a full EMU member the necessary infrastructure for monetary policy operations and provide efficient and safe settlement of trans-European interbank payments.

In 2004, closer cooperation in payment and settlement systems was established with the European Union. The ECB was Eesti Pank's most significant cooperation partner in this field. The Payment and Settlement Systems Committee (PSSC) and its working groups have discussed among other topics the elaboration of common principles for the collection of payment statistics, finding solutions to questions related to the development of a new trans-European settlement system of payments (TARGET2), drafting of a uniform list of appropriate collaterals for Eurosystem's monetary policy operations, and agreement on the standards of the EU securities settlement systems (ESCB CESR¹).

Apart from this, Eesti Pank had its representatives also in the Payment Systems Government Expert Group (PSGEG) of the European Commission, which is drafting a new legal framework (NLF) for internal payments within the EU. The objectives of the NLF are to harmonise the internal payments in the EU, making it more transparent and efficient, and to protect the interests of final consumers in executing payments.

SETTLEMENT SYSTEM OF INTERBANK PAYMENTS

Eesti Pank is an owner and manager of the settlement system of interbank payments, which comprises two subsystems: the Real Time Gross Settlement System (RTGS) for processing high-value and urgent interbank payments and the Designated Time Net Settlement System (DNS) for processing retail payments.

In 2004, RTGS handled an average of 159 payments per day (see Figure 7.1). The number of payments increased by 41% year-on-year due to a rise in customer payments. The number of customer payments settled daily through RTGS in 2004 was 119 on average, accounting for 75% of all payments settled through RTGS. The average value of customer payments was 2.2 million kroons in 2004.

The average daily value of RTGS was 2.2 billion kroons, having increased by 4% year-on-year. Most of the value of the payments settled through RTGS (64%) consists of DNS collateral payments, which are by nature daily payments by the members of DNS to participate in the work of DNS.

¹ CESR: the Committee of European Securities Regulators.

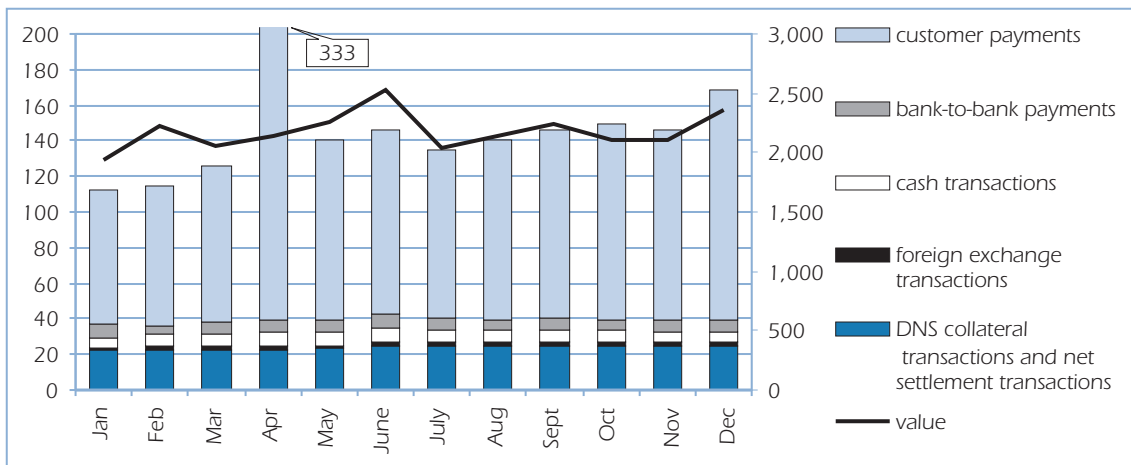


Figure 7.1. Average daily volume (left scale) and value (EEK million; right scale) of payments settled through RTGS in 2004

DNS settled an average of 64,400 payments per day in 2004 with 676 million kroons as the average daily value (see Figure 7.2). Compared with the previous year, the number of payments settled through the DNS remained the same, whereas the value increased by 9%. In 2004, the average value of payments settled through DNS was 10,500 kroons, having increased by 10% year-on-year.

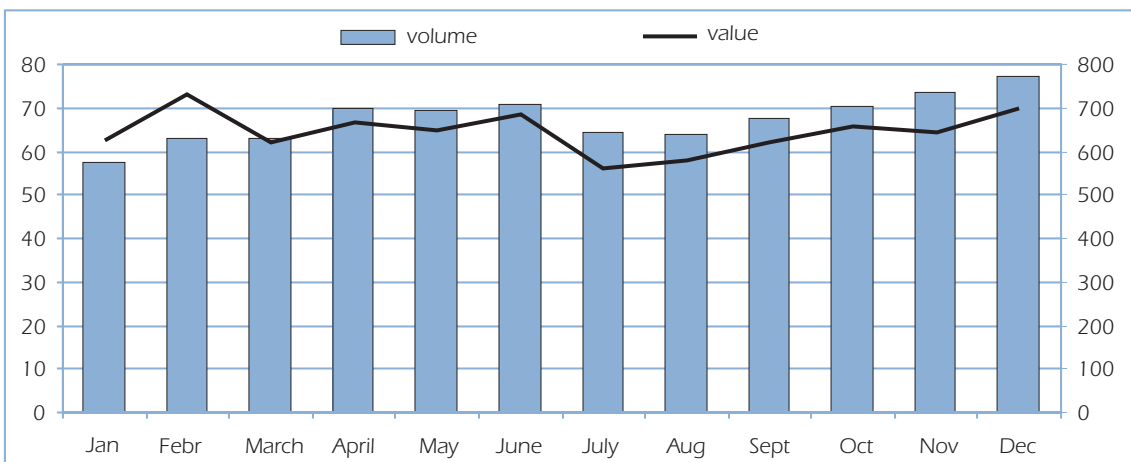


Figure 7.2. Average daily volume (thousands; left scale) and value (EEK million; right scale) of payments settled through DNS in 2004

PAYMENT INSTRUMENTS

The year 2004 sustained the trends of the previous years. **Both the number and value of cash payments decreased.** Similar to 2003, cash payments accounted for 0.5% of all the payments settled via commercial banks and 0.1% of their value. This trend complies with the objectives of the Strategic Development Plan of Eesti Pank for 2004–2006 to reduce the share of cash in payment intermediation and promote the use of modern payment instruments.

Comparing 2003 and 2004, it can be said that no major changes occurred in the structure of non-cash payments. In 2004, the most widely used non-cash payment instruments were **card payments** and **credit orders**, accounting for 47% and 45% respectively. Credit orders comprised 99% and card payments 0.7%

of the value of non-cash payments (see Table 7.1). **Estonia's payment environment is mostly electronic** and instead of less efficient payment instruments, such as telebank and paper-based credit orders, **Internet banking** and **debit orders** are used. Year-on-year, the value of Internet banking credit orders increased by more than 70%, reaching 360 billion kroons. Internet banking credit orders comprised 24% of non-cash payments and remained at the level of 2003. Telephone banking and paper-based credit orders were responsible for 2% and 0.2%, respectively, of all non-cash payments.

Table 7.1. Payments by payment instruments in 2004

	Value (EEK million)	Volume of payments (thousand)	Average size (EEK thousand)
Cash payments	1,787.47	601.55	3.0
Non-cash payments	2,157,901.05	132,939.71	16.2
Cheques	219.99	28.22	7.8
Travellers cheques	13.10	2.66	4.9
Other cheques	206.89	25.56	8.1
Card payments	16,077.60	62,471.55	0.3
Direct debit	3,971.20	10,252.76	0.4
Other debit orders*	507.03	82.40	6.2
Mobile payment	0.43	6.58	0.1
Credit orders	2,137,124.80	60,098.20	35.6
Standing orders	24,690.54	1,626.38	15.2
Paper-based credit orders	238,479.70	2,454.88	97.1
Telebanking credit orders	509,104.60	23,772.37	21.4
Telephone-bank credit orders	5,647.88	283.93	19.9
Internet banking credit orders	359,492.33	31,882.95	11.3
Mobile credit order	10.45	57.19	0.2
Other credit orders**	18,546.95	3.48	5,332.6
SWIFT	981,152.36	17.03	57,606.4
Undefined	0	0	0.3
Total	2,159,688.52	133,541.26	16.2

* Other debit orders include all debit orders, which do not belong under the rest of the classified debit orders, for example, payments based on compulsory execution (court judgements and rulings, control actions by tax authorities regarding collection of tax arrears, etc.).

** Other credit orders includes all credit orders, which do not belong under the rest of the classified credit orders, such as conditional credit transfers.

Among debit orders, paying with **payment cards** continued to increase in 2004. The number of **card payments** grew by 33%, falling 5 percentage points short of 2003. However, the **value of card payments** was up 10 percentage points year-on-year. A similar trend (the growth rate of the number of payments slows down, while the value accelerates) can be seen in the use of direct debit. In 2004, the value of direct debit exceeded 4 billion kroons and 10 million payments were made.

Compared to 1998, the number of payments quadrupled and the value doubled (see Figure 7.3). In seven years, the number of payments made by direct debit has increased the most, i.e. 102 times. **With cash payments and paper-based credit orders constantly decreasing**, the use of more efficient (electronic) payment instruments has been increasing. Apart from direct debits, the number of card payments has increased the most, i.e. 14 times.

By the end of 2004, Estonian credit institutions had issued 1.3 million credit cards, 21% of which were passive (cards not used for payments during a quarter; see Table 7.2). Over the year 59,000 debit cards and over 46,000 credit cards were issued. By end-2004, Estonia had 0.96 bank cards per resident, including 0.79 debit cards and 0.17 credit cards.

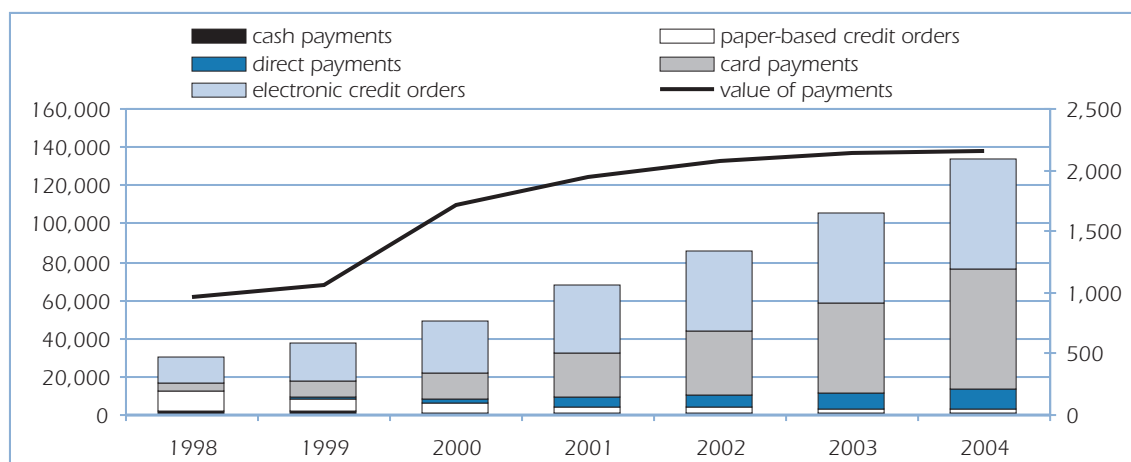


Figure 7.3. Volume (thousands; left scale) and value (EEK billion; right scale) of payments

Table 7.2 Number of bank cards issued in Estonia (thousands)

	1998	1999	2000	2001	2002	2003	2004
Domestic debit cards	292.3	59.5	13.4	8.8	8.8	8.5	10.1
Cash cards	50.9	15.1	4.5	4.9	7.5	8.3	10.1
Payment cards	241.5	44.3	9.0	3.9	1.3	0.2	
International debit cards	386.1	690.0	801.7	868.2	955.7	1,003.2	1,060.90
Debit cards total	678.5	749.5	815.1	877.0	964.5	1,011.6	1,071.0
International credit cards	19.2	21.3	43.3	110.1	155.1	186.3	232.6
Credit cards total	19.2	21.3	43.3	110.1	155.1	186.3	232.6
Bank cards total	697.6	770.8	858.4	987.2	1 119.6	1,197.9	1,303.6

In 2004, the growth in the number of automated teller machines (ATM) and points of sale (POS) accepting card payments slowed down. The range of services provided by ATMs expanded: ATMs accepting cash deposit were added. The number of ATMs increased by 32 and that of POS accepting card payments by 1,929, reaching 779 and 11,113 respectively by end-year (see Table 7.3). 83% of ATMs accept the most widespread international bank cards (Eurocard/Mastercard, VISA, etc) issued in both Estonia and other countries.

Collection of statistics on POS accepting mobile payments was launched in 2004. The new classification differentiates between three types of POS where card payments and/or mobile payments for goods and services might be used.

Table 7.3 Number of ATMs and POS accepting bank cards

	1998	1999	2000	2001	2002	2003	2004
ATMs total	490	591	630	680	719	747	779
Cross-usage ATMs	433	530	564	600	638	646	649
ATMs accepting cash payments	8	9	10	10	6	6	38
Cash dispensers	307	203	203	210	252	271	276
Cash withdrawal and payment terminals	126	327	361	390	386	375	401
Payment terminals	57	61	66	80	81	101	102
POS accepting bank cards	2,586	3,267	4,084	5,260	7,353	9,184	11,113
POS accepting bank cards							9,515
POS accepting mobile payments							1,236
POS accepting card and mobile payments							362

MEETING THE CASH DEMAND

Issued Banknotes and Coins and Their Structure

As at 31 December 2004, the total amount of cash in circulation was 8,895.1 million kroons. 13.3% of this (1,180.9 million kroons) was in the vaults of Estonian credit institutions and savings and loan associations, and 86.7% (7,714.2 million kroons) in the circulation outside these two.

Compared to 2003, when cash in circulation increased by 2.6%, growth accelerated remarkably in 2004, reaching 6.4%. Rapid growth mainly resulted from the growing number of 500-kroon banknotes. Similar to 2003, the structure of cash in circulation changed little in 2004 (see Table 7.4). The number of all denominations of banknotes grew slightly, except for 50-kroon banknotes, which are in relatively low demand, and 1-kroon banknotes, which are no longer issued. As seen from the table, 500-kroon and 100-kroon banknotes account for 96% of the total of the banknotes in circulation.

Table 7.4. Banknotes and coins in circulation

Denomination	Value (EEK m)				Number (pcs m)			
	31/12/01	31/12/02	31/12/03	31/12/04	31/12/01	31/12/02	31/12/03	31/12/04
1-kroon notes	5.1	4.8	4.7	4.6	5.1	4.8	4.7	4.6
2-kroon notes	20.7	22.3	23.9	26.0	10.3	11.1	11.9	13.0
5-kroon notes	34.1	35.6	36.7	38.8	6.8	7.1	7.3	7.8
10-kroon notes	63.6	65.1	66.8	70.6	6.4	6.5	6.7	7.1
25-kroon notes	162.0	174.7	179.6	187.4	6.5	7.0	7.2	7.5
50-kroon notes	51.1	51.5	49.5	45.4	1.0	1.0	1.0	0.9
100-kroon notes	1,065.9	1,020.9	1,068.6	1,076.1	10.7	10.2	10.7	10.8
500-kroon notes	6,583.6	6,648.3	6,796.8	7,337.8	13.2	13.3	13.6	14.7
Banknotes total	7,986.0	8,023.1	8,226.6	8,786.7	59.9	61.1	63.1	66.3
5-sent coins	2.2	2.2	2.2	2.1	43.1	43.1	43.0	42.4
10-sent coins	9.0	9.7	10.5	11.4	89.6	97.0	104.9	113.7
20-sent coins	13.1	14.6	16.2	17.7	65.7	72.9	80.8	88.7
50-sent coins	11.5	12.9	14.5	16.4	23.0	25.9	29.0	32.9
1-kroon coins	31.8	37.3	41.3	46.6	31.8	37.3	41.3	46.6
5-kroon coins	7.9	7.8	7.6	8.1	1.6	1.6	1.5	1.6
Circulation coins total	75.5	84.5	92.2	102.4	254.7	277.8	300.5	326.0
Commemorative coins	5.0	5.3	5.4	5.9	0.1	0.1	0.1	0.1
Total	8,066.5	8,113.0	8,324.1	8,895.1	x	x	x	x

The number of circulation coins exceeded 326 million, i.e. there are slightly more than 240 coins in circulation per resident. As Eesti Pank has terminated issuing 5-sent coins, their number decreased.

The average value of a banknote in circulation changed little over the year – it increased by 2.1 kroons, amounting to 132.5 kroons by end-year. The value of an average coin in circulation was 31.4 sents, i.e. 0.7 sents higher than in 2003. This can be attributed to the increase in the number of 1-kroon coins in circulation.

Cash Circulation

In 2004, Eesti Pank issued 8,881.7 million kroons to credit institutions; 8,306.0 million kroons were returned to Eesti Pank (see Table 7.5). 93.7 million banknotes and 26.1 million coins were issued from Eesti Pank. 90.5 million banknotes and 0.7 million coins were returned to Eesti Pank.

Table 7.5. Movement of cash between Eesti Pank and credit institutions

Year	Value (EEK m)		Number (pcs m)			
	Issued by Eesti Pank	Received by Eesti Pank	Issued by Eesti Pank		Received by Eesti Pank	
			banknotes	coins	banknotes	coins
2001	14,627.1	13,836.2	104.4	21.9	101.8	1.5
2002	9,849.7	9,799.4	95.1	24.8	93.9	1.8
2003	8,495.8	8,282.8	88.9	23.1	86.8	0.5
2004	8,881.7	8,306.0	93.7	26.1	90.5	0.7

In 2004, cash circulation between Eesti Pank and credit institutions increased in all denominations of banknotes, except in the share of 1-kroon banknotes, which are no longer issued, and 500-kroon banknotes, which were issued more from Eesti Pank but returned fewer.

All banknotes returned to Eesti Pank are sorted. Worn-out banknotes are destroyed and the rest are returned to circulation. In 2004, 6.0 million banknotes with the total value of 832.6 million kroons were withdrawn from circulation (see Table 7.6). Less cash was destroyed at the central bank than in previous years: in 2004, 82.5% of the value and 42.9% of the amount of cash was destroyed year-on year.

Table 7.6. Worn-out banknotes withdrawn from circulation

Denomination	Value (EEK m)				Number (pcs m)			
	2001	2002	2003	2004	2001	2002	2003	2004
1-kroon notes	1.0	0.4	0.1	0.0	1.0	0.4	0.1	0.0
2-kroon notes	9.0	6.2	3.2	0.3	4.5	3.1	1.6	0.2
5-kroon notes	22.0	16.9	8.6	10.0	4.4	3.4	1.7	2.0
10-kroon notes	17.2	28.8	13.8	5.0	1.7	2.9	1.4	0.5
25-kroon notes	21.1	109.9	75.3	14.4	0.8	4.4	3.0	0.6
50-kroon notes	51.1	27.5	31.7	27.2	1.0	0.6	0.6	0.5
100-kroon notes	627.9	383.3	245.5	74.0	6.3	3.8	2.5	0.7
500-kroon notes	1,314.5	770.4	631.2	701.6	2.6	1.5	1.3	1.4
Total	2,063.8	1,343.4	1,009.4	832.6	22.4	20.1	12.2	6.0

Introduction of New Collector Coins

In 2004, Eesti Pank issued a 10-kroon silver coin (Ag 999) dedicated to the 120th anniversary of the Estonian national flag and a 100-kroon gold coin (Au 999.9) dedicated to the Olympic Games. The coins were designed by Tiit Jürna. Suomen Rahapaja (Finnish Mint) minted the coins dedicated to the anniversary of the Estonian flag and Lietuvos Monetu Kalykla (Lithuanian Mint) the coins dedicated to the Olympic Games

Expert Analysis of Cash

One of the major responsibilities of the Cash and Security Department of Eesti Pank is to conduct **expert analysis of cash (primarily banknotes)**. Such cash mostly includes worn-out and damaged Estonian banknotes customers have returned to credit institutions. The expert analysis should determine whether it is possible to replace the damaged banknotes or coins to the customer. In addition to the requirement that the banknotes must be genuine, more than half of the banknote submitted for expert analysis should be intact, the serial number and number legible in full; the coin should have at least the denomination and the year of minting readable.

A total of 15,238 Estonian banknotes were submitted for expert analysis in 2004. 99% of the banknotes examined were worn-out and damaged. At the request of commercial banks the authenticity of foreign currency was checked and expert opinions expressed. 538 foreign banknotes were examined, 445 of which proved to be forgeries.

Preparations for the Changeover to the Euro

In 2004, a design competition for the national side of the Estonian euro coins took place with 134 designs submitted. The jury convened by Eesti Pank selected ten best designs that were submitted to the national telephone vote. The author of the winning design was designer L. Lõhmus (see also Chapter X, *Promotion of the Euro and Estonian National Euro Coin Design Contest*).

Cash-Related Cooperation in the European Union

Issues related to euro banknotes and coins are discussed in committees and working groups both at the European Commission and the European Central Bank, with representatives of Eesti Pank participating.

One of the most significant cooperation partners in the field of euro banknotes is the Banknote Committee (BANCO) at the ECB. The task of the committee is to handle and coordinate issues related to the euro banknotes. Estonia participates also in the committee's security working group.

Vis-à-vis euro coins Eesti Pank participates in the Economic and Financial Committee's Euro Coin Sub-Committee, which focuses on current issues related to issuing euro coins and discusses specific issues before a higher-level decision is taken. Euro coins related technical issues are on the agenda of the Mint Directors Working Group (MDWG).

Upon accession to the European Union, Eesti Pank committed itself to several new obligations as regards counterfeit currency. Eesti Pank has established a **Counterfeit Monitoring Centre**. Since end-2004, data is exchanged with the Counterfeit Euro Database. Eesti Pank has its representative also in the Counterfeiting Working Group.