



PAYMENT SYSTEMS REPORT



2025



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Pursuant to Act CXXXIX of 2013 on the Magyar Nemzeti Bank, the primary objective of Hungary's central bank is to achieve and maintain price stability. As set forth in the Act on the Magyar Nemzeti Bank, one of the main responsibilities of the Magyar Nemzeti Bank (MNB) is to promote the smooth execution of payments and to facilitate the reliable, efficient functioning of the financial market infrastructures that support this. All of this is indispensable for the performance of real economic and financial transactions.

The purpose of this Report is to present a comprehensive review of the trends in the field of payments and the operation of the overseen financial market infrastructures, as well as the main risks and the measures taken by the MNB to fulfil the responsibilities above. In publishing this report, the MNB wishes to contribute to enhancing the transparency of its activities in relation to financial market infrastructures and the execution of payments, while also endeavouring to improve financial literacy and thus raise public awareness of payment-related issues.

The MNB staff primarily relied on information relevant to 2024, although looking forward the Report also analyses ongoing developments observed in the course of 2025.

Contents

Key Findings of the Report	7
1 Introduction	11
2 Payment Processes and the Payments Development Indicator Set	12
2.1 Current Values of the Payments Development Indicator Set	12
2.2 Payment Fraud Related to Electronic Payments	50
2.3 Key Findings from Payment Inspections	60
2.4 Current Topics in Payments	62
3 Financial Market Infrastructures	68
3.1 VIBER	68
3.2 ICS	69
3.3 CLS	71
3.4 Liquidity in Payment Systems	71
3.5 KELER	75
3.6 KELER CCP	77
3.7 Current Topics in Financial Infrastructures	79

Key Findings of the Report

In 2024, the use of electronic payment solutions continued to increase at the level of the domestic economy as a whole, and thus 42 per cent of all payment transactions conducted in the country were electronic, which greatly supports boosting the competitiveness of the economy.

The share of electronic payments increased in all major areas of the economy. For purchases that require physical presence, typically in stores, 43 per cent of transactions were electronic, for bill payments this figure was 79 per cent, whereas it was 71 per cent in online commerce. Furthermore, beyond the above payment situations, the number of credit transfers, which are typically used in transactions between businesses and private individuals, also rose by 6.4 per cent. However, it is important to highlight that while payments between businesses are mainly electronic, transactions between individuals and payments made by individuals to businesses for various services continue to be predominantly cash-based. Progress was made in most of the areas monitored by the Payments Development Indicator Set last year, and thus overall the efficiency of domestic payment transactions improved further and the conditions for using electronic payment services also improved. In order to achieve the payment strategy goals, the MNB developed an action plan for 2025–2026 containing specific steps in the previously identified development areas. The MNB began developing the measures necessary to achieve the stated goals together with domestic payment players.

Electronic payment volume expanded dynamically last year, with the number of electronic transactions increasing by more than 200 million in one year, resulting in a total of more than 2.5 billion electronic payments. Bank cards continue to be the most commonly used electronic payment solution, with nearly 2 billion purchases made with them last year, a 10-per cent increase compared to the previous year. Within this, the number of foreign online payments increased the fastest, rising by 25 per cent. The number of domestic locations accepting online card payments increased by nearly 18 per cent, rising by more than 9,000, while the number of POS terminals expanded by more than 4 per cent.

The use of innovative payment solutions continues to expand rapidly, further encouraged by qvik payment solutions since 2024. Within this, card-based mobile wallet services are used by a wide range of customers.

One-quarter of all bank cards have already been registered in some kind of mobile wallet and more than one-quarter of card purchases were made with these. Qvik payment services, based on instant payments, became available to all retail customers completely free of charge in the autumn of 2024, creating new opportunities for merchants and invoice issuers to introduce a cheap, modern payment solution. In 2024, more than 1 million qvik requests were fulfilled, with the number of QR code payments exceeding 400,000 by the end of April 2025. In order for banks to provide qvik payment services in a customer-friendly manner, the MNB formulated its expectations for the domestic banking sector in a recommendation. One of MNB's main short-term goals for qvik payments is to make the new brand and the content elements of the service widely known both among the public and businesses. In addition, the merchant network accepting this payment method must be further expanded in the coming period so that customers can use the new payment solutions in as many payment situations as possible.

The share of customers preferring electronic payment solutions increased and now includes more than two-thirds of the adult population. 61 per cent of the population prefers electronic payments over cash because they consider them safer. In this context, more than 80 per cent are already aware of the basic rules necessary for the safe use of payment instruments, such as not giving out their PIN code and being careful when saving card details. One-third of the population is familiar with the qvik payment services based on instant payments, and more than 90 per cent are aware that it is mandatory for a significant number of merchants to provide electronic payment options. In line with this, electronic payments continued to gain popularity for the smallest value in-store purchases, i.e. purchases under 5,000 forints, but in this area, further information is also needed, both for merchants about cheaper transaction acceptance options and for customers about the possibilities of using electronic payment solutions.

The Hungarian customer base of foreign fintech service providers expanded significantly, and domestic banks must respond to this with cheaper, better-quality services, in order to maintain their competitiveness. These players offer their customers user-friendly services, favourable pricing and customer-friendly applications.

Thanks to this they already had about one and a half million domestic customers in Hungary by the end of 2024. Hungarian customers made card payments worth more than HUF 1,500 billion during the year with cards issued by foreign fintech service providers. This would make these players together the third largest bank in Hungary in terms of customer numbers. However, the majority of customers still only use these service providers as secondary accounts, and thus in terms of credit transfer volumes and especially in terms of deposit volumes foreign service providers lag significantly behind Hungarian banks with a similar number of customers. Some domestic banks have already responded to the emergence of new players via service development: for example, more and more domestic banks offer mobile banking applications with a wide range of services, as well as virtual bank cards or currency exchange at favourable rates. However, the specific structure of the domestic payment market and its resulting high concentration continue to impair the competitiveness of the sector and slow down service developments.

There are significant problems in the pricing of payment services, as the high and constantly rising price level and the opaque pricing structure greatly increase customer costs and worsen the competitiveness of the economy. In 2024, banking revenues from payment services increased by nearly 15 per cent to HUF 969 billion. There can still be significant differences in the costs of retail customers with similar payment habits depending on the account category they have, and although these differences decreased over the past year, the average cost level continued to rise. Three factors significantly raise the population's banking costs: (1) annual inflation-linked fee increases; (2) the extremely high weight of fees proportional to the number and value of transactions; and (3) the opacity of the payment pricing structure and, as a result, the low level of information available to customers. The 5-point agreement concluded between the MNB and the Hungarian Banking Association in April addresses these problems, and the agreement concluded with the Ministry for National Economy prevents further fee increases in the short term. The pricing problems in payment services can be addressed over the long run by strengthening competition. To this end, it may be justified to transform the banks' pricing practices, to make pricing more transparent, to sharply increase the intensity of customer information, and to further simplify the process of switching between account packages and between banks.

Further steps are needed to reduce costs for small businesses, self-employed operators and traders. High banking costs impair the competitiveness of these actors

compared to their foreign competitors, thereby reducing the competitiveness of the entire economy. Payment costs in the corporate sector increased by 90 per cent over the last five years, and high payment costs also pose a significant burden for self-employed operators. Card acceptance costs rose in all merchant segments, with the highest increases at merchants with the lowest transaction volume. Here, the volume-related cost is already 3.4 per cent, more than double the 1.5-per cent target set out in the MNB's payments strategy, which is ideal for the competitiveness of the domestic economy.

The increase in the value of fraud related to household credit transfers stopped in 2024, but in the case of payment cards, the number and value of fraud cases increased; therefore, additional efforts are needed by both banks and card companies to curb fraud. The increase in credit transfer fraud decreased as a result of banking developments implemented based on the expectations of the MNB, such as transaction limit management. While the rate of fraud detected by real-time monitoring systems is still low, widespread use of these systems is essential to significantly reduce fraud. This is also supported by the Central Fraud Monitoring System launched by the MNB and GIRO in mid-2025 for credit transfers. In addition, activities to provide information to customers must be strengthened, as the vast majority of fraud cases continue to occur by deceiving customers, and as a result, the customers bear the majority of the damage. To support this, the CyberShield initiative was expanded with new members and extended.

Based on the payment audits conducted in 2024, the operation of the examined payment service providers was generally adequate, but deficiencies were identified in all procedures without exception. The MNB closed six payments control procedures last year and imposed fines totalling HUF 278 million. The most common violation was related to the immediate crediting of payment transactions, which impaired customers' liquidity management and could even cause damage to customers if they did not have sufficient coverage for their own payment orders. In addition, most investigations included findings that related to the information provided prior to the conclusion of the framework agreement, as well as the formal and content requirements of the framework agreement, and that violations could be capable of adversely influencing or misleading the customers' decisions. In parallel with the acceleration of digitalisation, new opportunities opened up in the field of fraud, which is why the MNB also began to monitor the recommendation on fraud prevention, which it will continue in 2025, by monitoring compliance with the rules of the recommendation that enters into force

on 1 March 2025. In connection with the changes in the field of instant payments and the launch of qvik payment last year, the MNB launched a sector-level investigation in 2025, similar to last year's investigations but expanding its content, as these inspections can ensure that all market participants develop new services in accordance with the legislation and the expectations of the MNB, in such a way that the related customer experience is at the highest possible level, thus facilitating the rapid spread of qvik payments.

The MNB and the financial market infrastructure system operators will do their utmost to ensure the highest possible availability of infrastructures and, where necessary, will take measures to ensure this. In 2024, domestic financial market infrastructures contributed to the functioning of the national economy through high availability, efficient and reliable operations. VIBER operated with high reliability and security in 2024, and service availability risk decreased slightly compared to the previous year. In 2024, instant, intraday and overnight settlement in the Interbank Clearing System (ICS) also operated reliably and securely. KELER operated fundamentally reliably and securely, although availability did not reach the expected level halfway through the year. KELER CCP's operation was highly reliable and secure, and although the availability requirement was not met as expected in one month, the trend is still positive, and service availability risk is low.

Transaction volumes in the financial market infrastructures grew in 2024, with the exception of VIBER. In 2024, the value of VIBER transactions dropped by nearly 28 per cent, while the number of transactions rose by 1.9 per cent. Compared to the previous year, the decline in transaction volumes was significant during the first three quarters, due to the phase-out of the deposit quick tender in October 2023. Total transaction volume and value both increased across the three ICS platforms, with the volume of instant payments growing most dynamically, steadily capturing an ever larger share of the payment transaction pie. Following the shift towards instant transactions, 82 per cent of the total transaction value on the three ICS platforms was settled via intraday clearing, 15 per cent via instant clearing and 3 per cent via overnight clearing. In 2024, the value of securities transactions settled by KELER increased significantly, mainly as a result of MNB bond issuances, while the number of transactions showed a slight decline. In 2024, the turnover of the markets cleared by KELER CCP increased by a total of 23 per cent versus 2023.

In 2024, the liquidity of VIBER participants was still more than sufficient to manage volatile payment transactions.

The extended liquidity of VIBER participants remained relatively stable throughout the year, ranging between HUF 11,500 billion and HUF 12,000 billion. Despite the decline in the final quarter of 2023, liquidity was still more than sufficient to manage volatile payment transactions. The major change in the central bank's instruments did not affect participants' liquidity in 2024. As a result of the ample liquidity in the system, still only a very low portion of VIBER transactions were queued due to shortage of liquidity. The participants planned the instant liquidity level and the VIBER liquidity level required for the intraday and overnight settlement of the ICS with sufficient certainty to ensure smooth settlement in 2024.

The central banks of the euro area, led by the European Central Bank, started to work together on the creation of a central bank digital currency which meets the requirements of the modern economy and, at the same time, preserves the security and stability characteristic of central bank money. After the design phase, the digital euro project has entered the phase of preparation for implementation. The current period focuses on developing a detailed operational and business model, involving potential market participants and defining their tasks, while the next implementation phase, starting in November 2025, will focus on building and testing the infrastructure. The MNB continues to participate in the international professional discourse on central bank digital currency, constantly examining its potential future introduction from regulatory, payments and technological perspectives.

The new payments regulation of the European Union will further unify the operation of the European electronic payment market, and strengthen consumer protection and competition between the players. In addition, in relation to electronic payment fraud, it foreshadows tangible changes for users of electronic payment solutions, including a fairer distribution of fraud-related losses between consumers and payment service providers, and the introduction of a new legal mechanism to verify that the account number and payee name match when credit transfers are made.

In line with international trends, the European Union will introduce T+1 day settlement starting from 2027 in capital market settlements, thereby further increasing the speed of processes and also supporting even more efficient operation of the economy. The first steps in the European regulation required for introducing shorter settlement cycles have been completed, but the technical details are still being worked out. The European Commission's proposed regulation for shortening the settlement cycle

was published on 12 February 2025. This is expected to stipulate shorter allocation and confirmation deadlines, as well as the mandatory use of open communication solutions and other technological solutions that increase clearing efficiency. Shortening the settlement cycle, on the one hand, provides significant advantages for investors, but, on the other hand, it also poses challenges for market

participants, as it reduces the time available for post-trade infrastructure and other service providers to complete their work between the conclusion and the settlement of a trade on the exchange. In its role of developing and controlling supervisory and financial infrastructure, the MNB will monitor and assess the level of market readiness for the switch-over to T+1.

1 Introduction

The increased use of electronic payment services has several positive effects on the functioning of the economy. It reduces the social costs of executing transactions, makes transactions more efficient in the real economy, contributes to reducing tax evasion, supports the country's competitiveness and enables the development of new economic activities. The MNB is actively involved in the development of electronic payments. Electronic payment alternatives are now essentially accessible in all situations, and the use of electronic payments has significantly expanded in recent years. The payment strategy for 2030 identified areas where more progress is needed to support the further development of electronic payments. In cooperation with industry players and partner authorities, the MNB has developed action plans to promote the use of electronic payments, in order to remove obstacles to their more frequent use and to improve the information available to the users of the services. The results of the measures set out in the plans are monitored and assessed

on a regular basis using the Payments Development Indicator Set published in the Payment System Report.

Reliable, safe and efficient operation of the financial market infrastructure is indispensable for the performance of real economic and financial transactions. To ensure this, the MNB oversees and supervises financial market infrastructures, tracking the reliability and efficiency of system operations and availability, as well as the liquidity management of participants and the level of liquidity available in the systems. The Bank also verifies that these systems operate in accordance with the law. In order to maintain trust in electronic payments and the operation of payment services in accordance with the law, the MNB also monitors payment service providers. It can thus be ensured that customers can use the electronic payment solutions in accordance with the law and receive the necessary information.

2 Payment Processes and the Payments Development Indicator Set

In 2023, the MNB published its new electronic payment services strategy setting the objectives to achieve by 2030. Of the two objectives from the previous payments strategy, the development of infrastructure was achieved by the early 2020s, as electronic payments are now possible in the vast majority of payment situations. Significant progress was also made towards the other objective, promoting the use of electronic payments and increasing the share of electronic payment in all payment transactions in the economy to 31 per cent by 2021, from around 10 per cent in 2010. Based on these results, new targets were set to further promote the use of electronic payment solutions.

Working with the large amount of data available on payment services, the MNB continuously measures and assesses developments in payment services. The MNB regularly collects data from payment service providers relating to the use of electronic payment solutions, the electronic payment infrastructure and the user costs of electronic payment services, as well as the financial infrastructure and its operation. In addition, it also receives the NTCA's anonymised online cash register (OCR) data and regularly conducts questionnaire surveys to accurately map payment habits and better understand the influencing factors. Consequently, it has a data pool of more than 35 billion records, which is growing by around 5 billion records a year, giving it a detailed overview of every segment of domestic electronic payment transactions and enabling detailed assessment of the trends.

The goal of the MNB is to increase the share of electronic transactions by number in the whole economy to at least 60 per cent by 2030 through general promotion of usage, and to reach two-thirds if targeted promotion of usage is also implemented. Based on the results of the previous strategy, promoting the use of electronic payment services and improving knowledge about such services is the focus for the coming period. This enables customers to make informed decisions on the payment method best suited to their needs in every payment situation.

In order to identify areas for improvement and additional measures to be taken, the MNB defined the Payments Development Indicator Set. These 18 indicators cover all areas of electronic payment to be improved, with some indicators tracking the general development level of electronic payments and others following certain parts of the user and supply sides. Using these indicators, it is possible to monitor the share and prevalence of electronic transactions, the intensity of competition, the use of innovative services, the pricing of payment services, and customers' knowledge of and attitudes on such services. Based on the developments and direction of further actions identified in the indicator set, working in cooperation with those concerned, the MNB formulates an action plan for a couple of years. The MNB continuously monitors the evolution of the Payments Development Indicator Set, assesses the developments, proposes further measures where necessary and publishes these regularly in the Payment System Report, so that all participants in the payments market have detailed information on the subject.

2.1 CURRENT VALUES OF THE PAYMENTS DEVELOPMENT INDICATOR SET

In 2024, the use of electronic payment solutions increased in the national economy, and the increase in the efficiency of payment services continued to improve the competitiveness of the Hungarian economy. The share of electronic transactions grew in all major payment situations, including physical payment situations, online purchases, bill payments and, beyond this, transactions in the corporate and household sectors. The use of innovative payment solutions is expanding rapidly, and the range of users is also increasingly broad. These developments are supported by the fact that a growing share of the adult population prefers to use electronic payment solutions, and knowledge of these solutions also continued to improve during the past year. The share of stores where the majority of purchases are paid for

electronically continues to rise, and at the same time, the share of electronic payments is growing rapidly even for the smallest purchases.

Several structural problems continue to hamper the development of payment services, which in turn undermine the competitiveness of the economy and the domestic banking sector. The average cost level for household payment services continued to rise, although cost differences between customers narrowed

slightly. Costs are also high for sole entrepreneurs and for small and medium-sized enterprises, which impairs the competitiveness of this sector. In addition to non-transparent pricing structure, the growing concentration of the payment services market also reduces the intensity of competition, which has a negative effect on the competitiveness of the banking sector as well. In addition to the above, the share of people with only electronic income has narrowed, but nevertheless more than two-thirds of the population still receive their income this way.

Chart 1
Key findings on areas for improvement in domestic payments

According to the indicators

progress has been made in the following areas:

- The share of electronic transactions in the overall economy has further increased
- The share of the value of electronic purchases has grown faster than in the EU
- The share of electronic payments in the smallest household transactions is increasing
- The share of shops where electronic payments are predominant has significantly increased
- The share of electronic bill payments has risen
- The use of innovative payment services continued to grow rapidly and the customer base using them expanded
- More and more people prefer electronic payments
- Knowledge of electronic payment services has improved
- The account penetration of people over 60 years old has risen
- The share of free-of-charge household credit transfers slightly increased

further measures are needed in these areas:

- The average cost level for household payment services continued to rise, but the cost difference between customers narrowed slightly
- Card acceptance costs for the smallest merchants have risen
- The share of people with only electronic income has declined
- Concentration in the payments market increased
- No further increase was seen in the share of people who actively use electronic transactions
- The share of third-party service users remains minimal

Table 1				
Values of the Payments Development Indicator Set				
2021 value	2023 value	2024 value	2030 target value	Change in 2024
Key indicators				
Share of electronic transactions by number				
31%	38%	42%	At least 60% of transactions with broad general incentives to use and at least two thirds of transactions through additional targeted measures	+4 percentage points
Concentration in the electronic payment services market				
2,026	2,221	2,284	Up to 2,000	+62
Annual additional growth of electronic payments compared to economic growth				
0.99	0.9	0.94	The change in this indicator is assessed individually each year	+0.04 *
Share of the value of electronic purchases				
41%	47%	48%	At least 62%	+1 percentage point
Use of electronic payment solutions on the end-user side				
Account penetration of people aged 60 and over				
71% (2020)	74%	78%	At least 91%	+4 percentage points
Share of people with electronic income only				
75% (2020)	74%	68%	At least 80%	-6 percentage points
Share of people actively engaging in electronic transactions				
39%	49% **	49%	At least 50%	0 percentage point
Share of customers using third-party providers' (TPPs) services				
0.4%	0.4%	0.6%	Steady rise	+0.2 percentage point
Share of users of innovative payment solutions				
13%	20%	25%	At least 58%	+5 percentage points
Share of electronic payment transactions on the end-user side				
Adoption rate of innovative payment solutions				
9%	19%	23%	At least 54%	+4 percentage points
Share of free household credit transfer transactions				
36%	40%	41%	At least 80%	+1 percentage point
Share of electronic bill payments				
71%	76%	79%	At least 80%	+3 percentage points
The uptake of electronic payments in retail payments of the lowest amount				
2.4	2	1.9	Up to 1.4	-0.1
Financial awareness and attitudes towards electronic payment methods on the end-user side				
Share of people preferring electronic payments				
48% (2020)	58%	69%	Steady rise	+11 percentage points
Awareness of electronic payments				
The constantly changing values of the sub-indicators are shown in the publications monitoring the implementation of the strategy			Steady rise	
Reduction of the level of payment costs for the population				
2021 is the base year, so in the following years the indicator is calculated compared to this baseline	0%	0%	100%	0 percentage point
How developed are the payment transactions on the supply side				
Acceptance costs paid by the smallest merchants as a share of turnover				
2.6%	3.1%	3.4%	Up to 1.5%	+0.3 percentage point
Electronic payments at accepting merchants				
20%	34%	40%	At least 40%	+6 percentage points
*The calculation methodology for the indicator was refined; therefore, data from previous years also changed.				
** The methodology changed slightly, due to the data available to the MNB, which allow for more accurate analysis of customer data. If calculated using the methodology used for 2021, the results for later years would be a couple of percentage points lower than those shown in the table.				

2.1.1 General Indicators

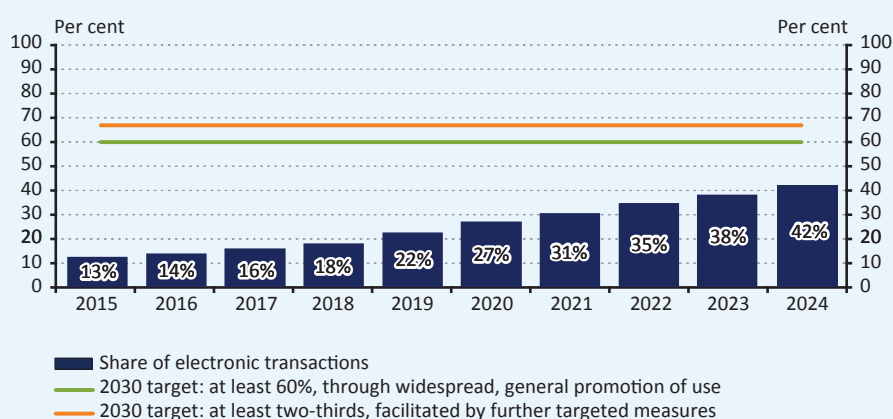
The general indicators in the Indicator Set are used to monitor general, broad trends in electronic payments. In addition to the share of electronic transactions in

the whole economy, other relevant indicators include comparing payments with economic growth, analysing the development of electronic payments internationally and measuring market concentration based on transaction numbers to monitor the intensity of competition.

2.1.1.1 Share of Electronic Transactions by Number

This indicator shows the changes in the share of the number of electronic transactions in the whole economy; an increase in this ratio supports economic growth and reduces social costs and tax evasion. This key indicator reflects the MNB's fundamental strategic objective to boost the use of electronic payment methods to a more efficient level from a social perspective.

Chart 2
Share of electronic transactions by number of transactions within total payments



Source: MNB estimate based on NTCA online cash register database, regular banking data reporting and questionnaire survey

Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
31%	38%	42%	+4 percentage points	at least 60% / two-thirds

$$\text{Share of electronic transactions by number}^1 = \frac{\text{Number of electronic transactions}}{(\text{Number of cash} + \text{electronic transactions})}$$

The share of electronic transactions within total payment transactions continued to rise over the past year at a similar pace to previous years, reaching 42 per cent in 2024. Considering all payment situations, the share of electronic transactions by number increased by 4 percentage points. In terms of transaction distribution, the majority of transactions occur in situations that require physical presence, typically in stores, which can

be reliably tracked using transaction data from online cash registers. In this payment situation, the share of electronic transactions by number increased by 4 percentage points to 43 per cent, while the ratio by value was 57 per cent in 2024, thanks to an increase of 3 percentage points. The use of electronic payment transactions continued to spread in the field of bill payments, with a 3-percentage point increase bringing the share of bills paid in this way

¹ Electronic transactions: the number of electronic payment transactions in the whole economy, i.e. purchases in stores and online acceptance points (typically card payments and credit transfers), electronic bill payments (card payment and credit transfer are also possible here, and payment can also be made by direct debit or by paying postal money orders with a card), and electronic transactions within and between different sectors (household, corporate, government entities).

Cash transactions: the number of all cash payment transactions in the whole economy, i.e. purchases in stores and online acceptance points, cash bill payments (paying postal money orders with cash), and cash transactions within and between different sectors (household, corporate, government actors).

Savings, investment and lending transactions are only included in payment transactions to the extent that the payment involves at least one payment account.

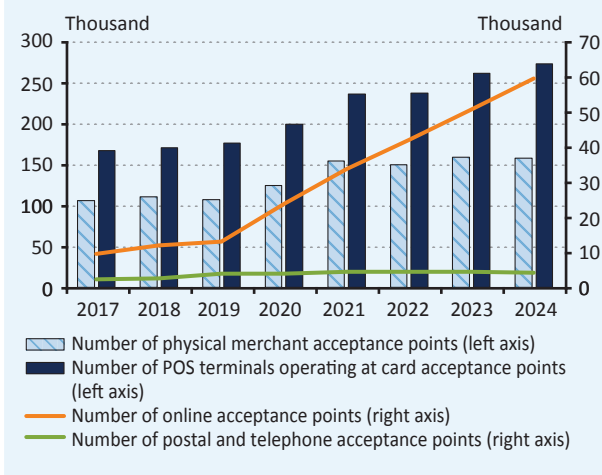
to 79 per cent. In addition to the above, the expansion of online shopping continued, the use of electronic payment solutions increasing by 5 percentage points to reaching 71 per cent in these situations.² Furthermore, beyond the above payment situations, the number of credit transfers typically used in transactions between corporations and private individuals also increased by 6.4 per cent. However, it is important to highlight that while payments between corporations are mainly electronic, transactions among private individuals and payments made by private individuals to corporations for various services continue to be predominantly cash-based.

The number of household customers using instant payment and mobile banking app credit transfers continued to grow in 2024. The number of bank accounts held by Hungarian payment service providers increased by 2.8 per cent in 2024. The share of bank accounts accessible via the internet or mobile banking apps increased by 1 percentage point to 85.4 per cent during the one-year period. The share of household accounts using mobile banking app credit transfers rose significantly, by 3.2 percentage points, and consequently more than one-third (34 per cent) of household bank accounts are now used via apps, while 42 per cent of household bank accounts were used to initiate instant credit transfers during the year. Furthermore, approximately 1.5 million Hungarian customers had bank accounts with foreign service providers at the end of the year. In the same period, the number of cards issued by domestic payment service providers grew by 2 per cent. In particular, the number of credit cards rose by 4.6 per cent on an annual basis.

The number of online acceptance points expanded by 18 per cent in 2024, highlighting the transition in retail trends and the continuous spread of e-commerce. No significant change was seen in the number of physical merchant acceptance points in 2024. However, the number of POS terminals operated at these points increased by 4.3 per cent, indicating growing demand for electronic payment options. Simultaneously, the network of online acceptance points operated by domestic payment service providers expanded by 17.8 per cent, increasing by more than 9,000 acceptance points, which brought the total number of online acceptance points operated by domestic payment service providers to almost 60,000.

Household credit transfer volume continued to grow in 2024, with over 200 million household credit transfers

Chart 3
Key data on the card acceptance network



conducted during the year. The total number of credit transfers increased by 6.4 per cent on an annual basis, but their total value was lowered significantly by cashpool transfers. These credit transfers contributed greatly to the outstanding growth rate seen in recent years, but a stable, steadier growth trend is taking shape even without these credit transfers. Consequently, the total value of household credit transfers rose by 5.7 per cent, while the number of such credit transfers rose by 8.5 per cent. Simultaneously, as a result of the increase in the instant payment threshold in September 2023 and the spread of qvik payments detailed in Chapter 2.4, the number of instant payments grew by 12.2 per cent and their value by 21.7 per cent.

Purchase transactions conducted by payment cards rose by over 10 per cent; due to the high base, the lower rate compared to previous years still means more than 180 million new transactions and approximately HUF 2,200 billion in additional turnover. The number of payment card purchase transactions conducted by payment cards at domestic service providers increased by 10.2 per cent versus the previous year, while their value grew by 12.5 per cent, reaching nearly 2 billion purchases on an annual basis, with a total value of almost HUF 20,000 billion. The growing popularity of electronic payment solutions is also reflected in lower cash withdrawals. The number of cash withdrawals dropped by 4 per cent in 2024, while their total value fell by almost HUF 600 billion (4.5 per cent). Domestic customers conducted purchase transactions using cards issued by foreign service providers in the value of over HUF 1,500 billion in 2024.

² 2024 Q1-Q3 data based on the „PwC Digitális Kereskedelmi Körkép 2024/II” (PwC Digital Retail Landscape Q2/2024)

Chart 4
Turnover and annual change in turnover for key payment transactions

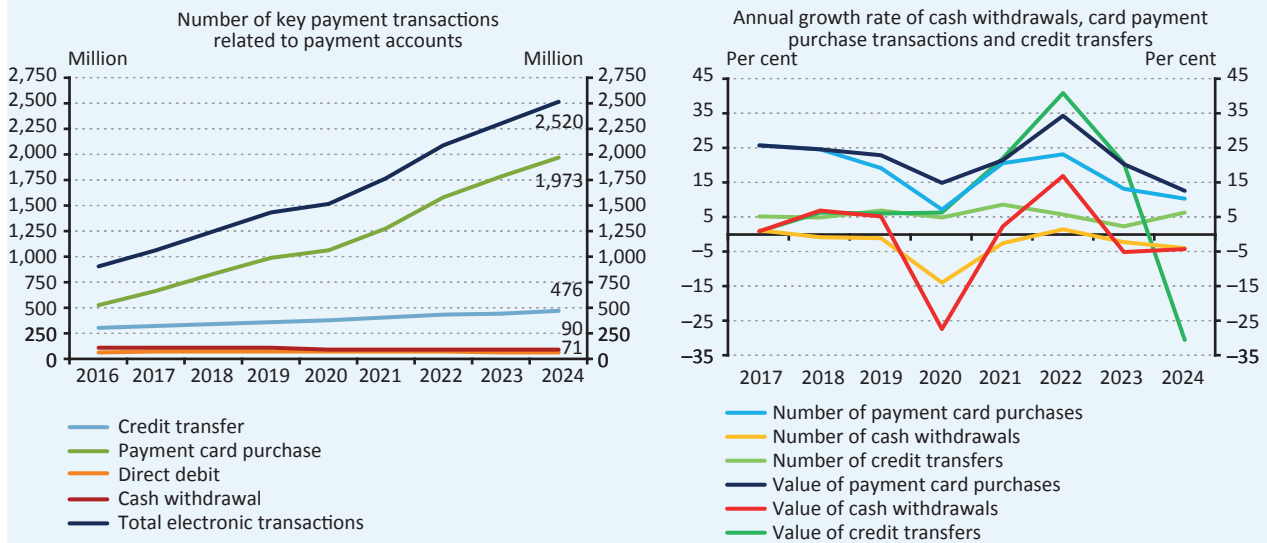
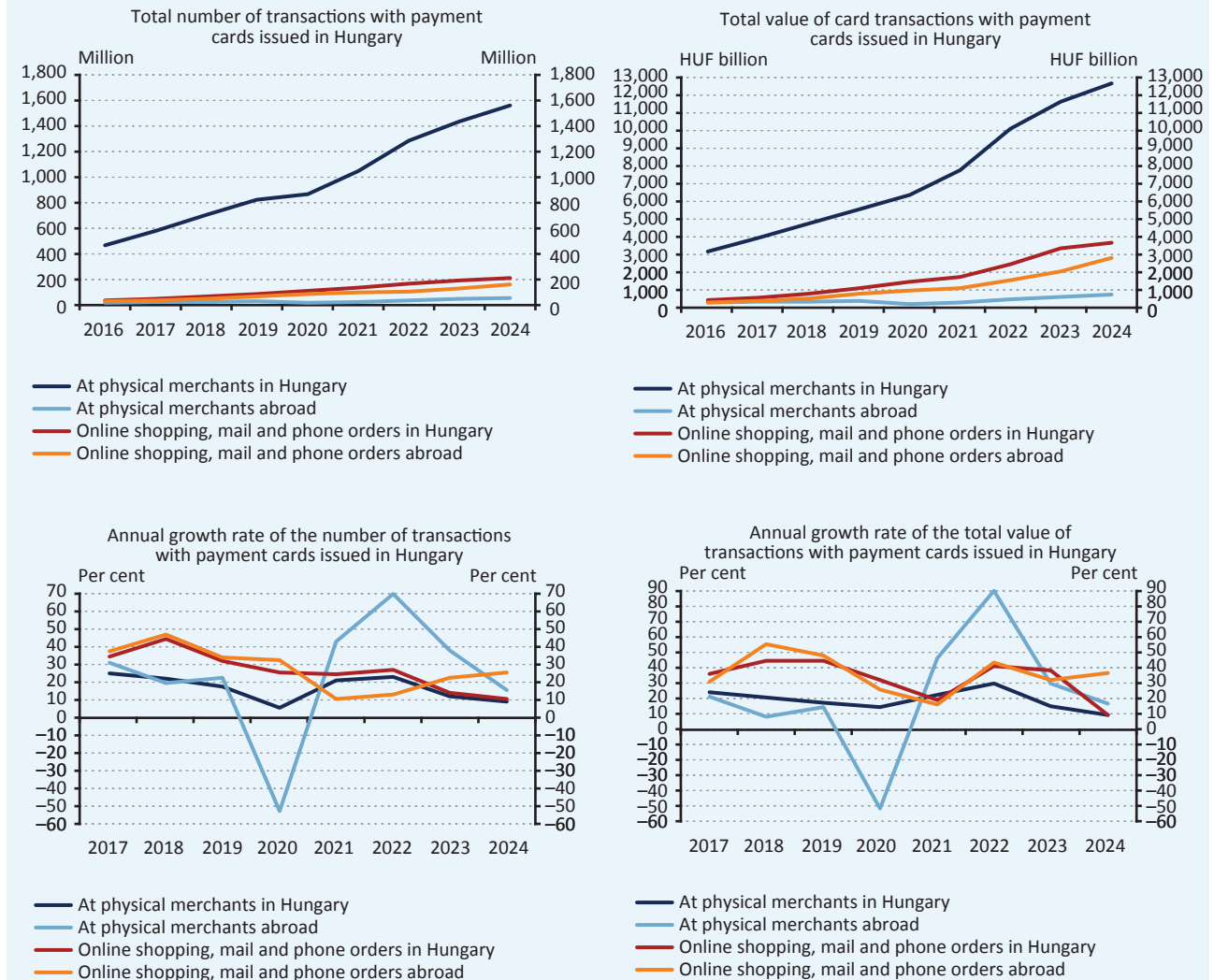


Chart 5
Number of payment card purchases and annual change in turnover by payment situations

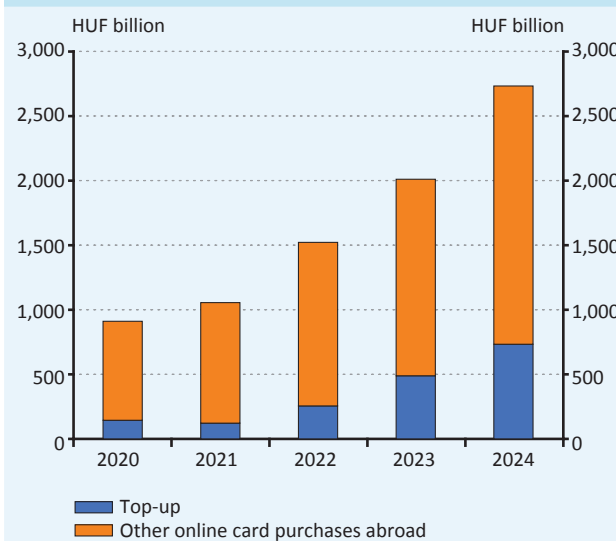


The value of purchase transactions using cards rose dynamically in all segments, as card payments became more and more common both domestically and abroad, both at virtual and physical merchants. In 2024 domestic physical purchases made up 78.9 per cent of payment card purchases, which is a decrease of more than 1 percentage point compared to 2023. The number of such transactions rose by 8.7 per cent, while their total value grew by 9.1 per cent on an annual basis. Payment card purchase transactions abroad increased even more significantly both physical and online. Even though they still account for just 2.5 per cent of total payment card turnover, the number of purchase transactions in physical stores abroad increased by 15.5 per cent, while their total value increased by 16.8 per cent. Transactions in foreign online stores rose even more dramatically, as their number grew by 25.1 per cent and their value by 37 per cent in the span of one year, compared to 2023.

The share of account top-up transactions initiated towards various foreign fintech service providers rose sharply within foreign online purchases, as account top-up transactions worth more than HUF 745 billion were conducted within foreign online card purchase transactions during the year. These transactions, which mainly include account top-ups conducted with foreign fintech service providers, accounted for more than one-quarter (27.1 per cent) of the value of foreign online transactions in 2024, showing a rise of 2.8 percentage points on an annual basis. Hence, the total value of account top-ups conducted in 2024 was 51.9 per cent higher than in 2023, contributing strongly to the growth in turnover detailed above.

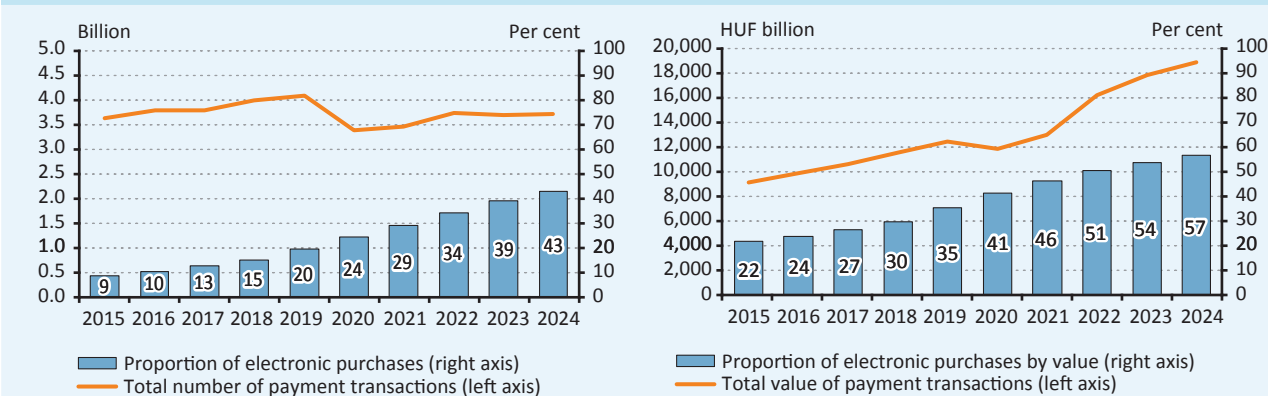
Following a 4-percentage point increase, 43 per cent of purchases were paid for with electronic payment solutions

Chart 6
Value of fintech account top-up transactions within foreign online card purchases³



in the sector using online cash registers, while the total number of purchases remained relatively unchanged in 2024. The majority of total payment transactions conducted in the national economy takes place in stores, restaurants and service providers that use online cash registers, and thus expanding the use of electronic payment solutions at these locations will also boost efficiency throughout the economy. It is favourable that the use of electronic payment methods continued to grow in this sector last year, accounting for 43 per cent of transactions and 57 per cent of total purchase value. Meanwhile, the total number of purchase transactions remained basically unchanged, while the total value of purchases increased by 6 per cent compared to the previous year.

Chart 7
Number and value of transactions and share of electronic transactions in the sector using online cash registers



Source: NTCA online cash register database, MNB calculation

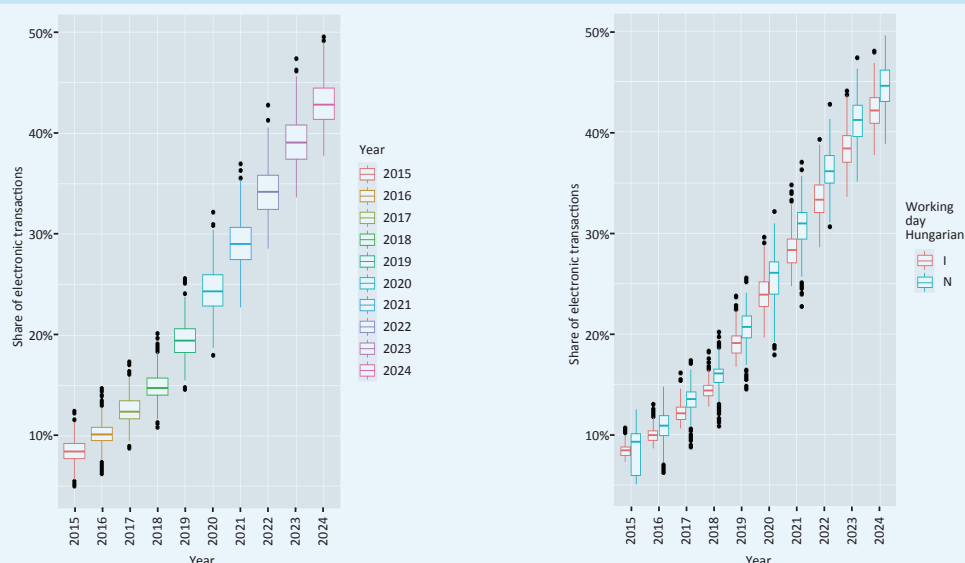
³ Foreign online purchase turnover did not include all top-up transactions before 2025, so the total value of all top-up transactions was higher than presented in the chart, amounting to HUF 1,656 billion in 2024.

Significant differences continue to be seen in the share of electronic transactions both within the year and within individual months, and the shares of electronic transactions measured on each day in 2024 greatly exceeded the figures for 2023. Considering the entire year, there were significant differences in the share of electronic payments among days, with the lowest share of only 38 per cent of purchases paid for electronically by customers, while the highest share measured was almost 50 per cent of purchases paid for using electronic payment solutions. Major differences

between business days and non-business days continue to exist, indicating that there are still substantial differences in payment methods depending on the payment situation. This is substantiated by the monthly and weekly trends in the ratio of electronic transactions. As observed in previous years, the share of electronic transactions remains highest in the second week of the month, when larger purchases, likely scheduled to coincide with salary payments at the beginning of the month, are made and paid for electronically in larger proportions.

Chart 8

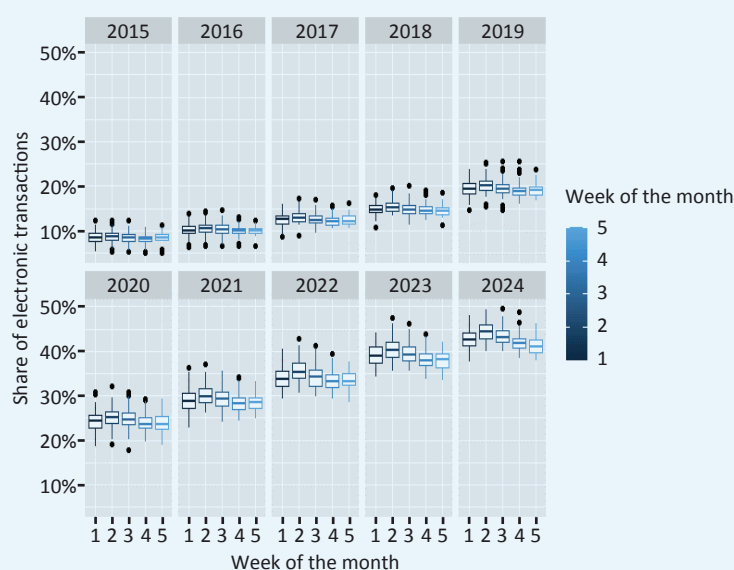
Quartiles of the daily share of electronic transactions recorded on online cash registers and vending machines in individual years on business days and non-business days



Source: NTCA online cash register database, MNB calculation

Chart 9

Quartiles of the daily share of electronic transactions recorded on online cash registers and vending machines by weeks within different months in individual years

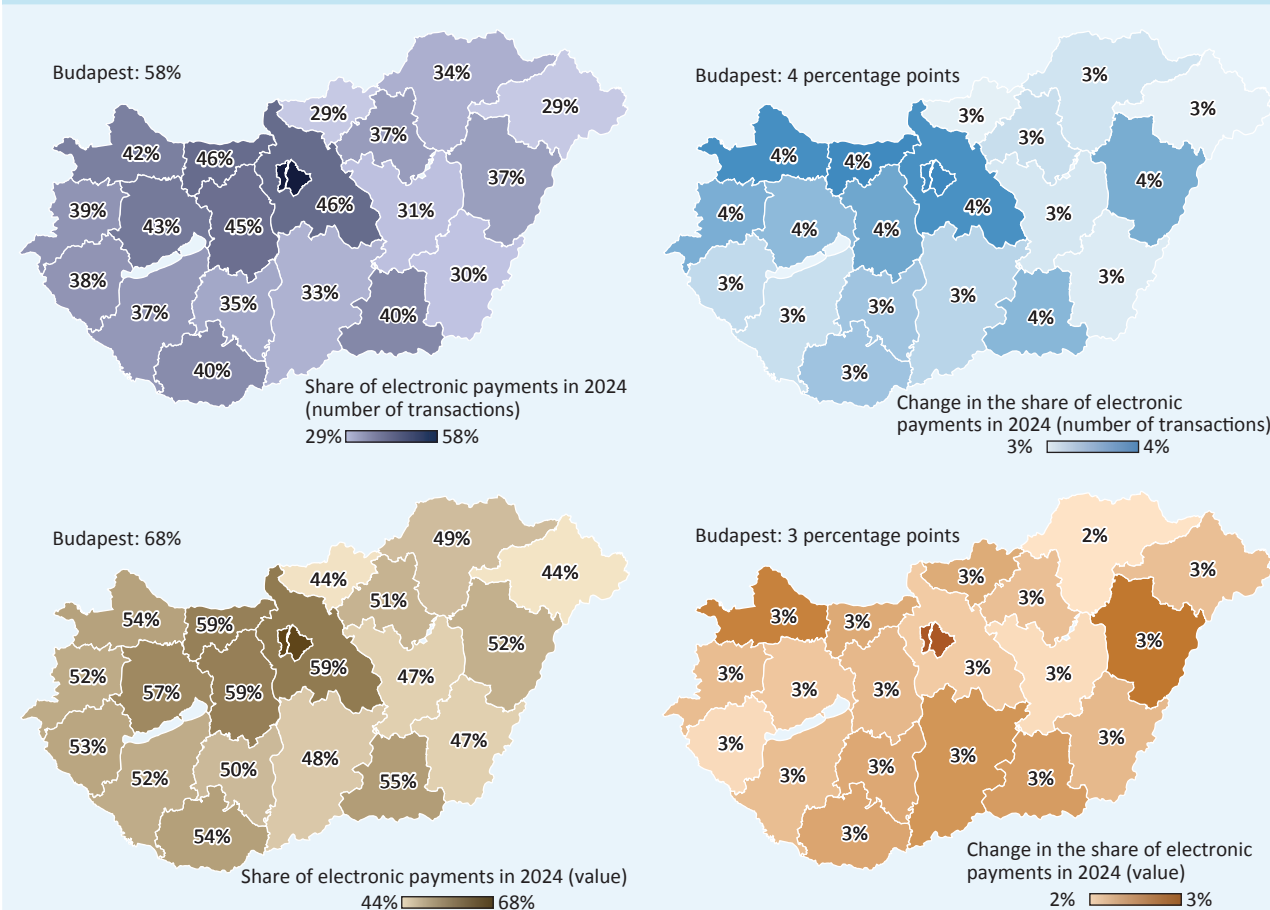


Source: NTCA online cash register database, MNB calculation

In a regional view, there are still remarkable differences, reaching up to 29 percentage points, in terms of the ratios of electronic transactions measured in Budapest versus different counties. There were minor differences in the annual change in the share of electronic transactions in individual counties and in Budapest, with an increase of 3 to 4 percentage points in transaction numbers and 2 to 3

percentage points in transaction value in 2024. While 58 per cent of purchases in Budapest were paid for electronically, the ratio was 29 per cent in Szabolcs-Szatmár-Bereg and Nógrád counties. There are similar differences in the value of electronic payments, ranging from 44 to 68 per cent throughout the country.

Chart 10
Shares of electronic transactions and changes in such in percentage points in the sector using online cash registers

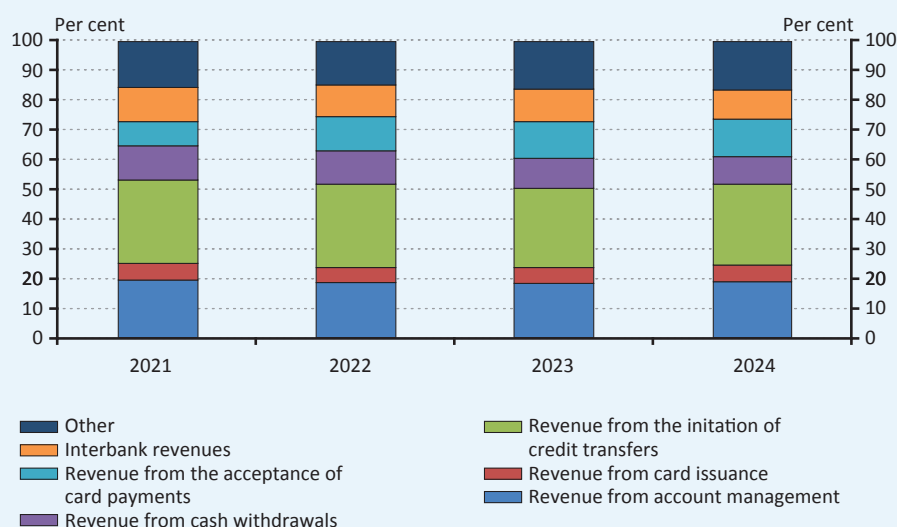


Source: NTCA online cash register database, MNB calculation

The ongoing, significant growth in banks' payment service revenues weakens the economy's competitiveness, and its improper structure hinders the increased use of electronic payment solutions. The revenues of domestic payment service providers grew by 14.8 per cent to HUF 969 billion in 2024. The structure of payment service revenues remained almost unchanged. Revenues related to payment card issuance rose the most, advancing by 21.7 per cent, but the largest portion of revenues, at over one-quarter (27.3 per cent), is still related to the initiation of credit transfers. 28.9 per cent of payment service revenues was related to fixed, periodic (e.g. monthly or annual) fees, while 13.0 per cent was based on the number of transactions and 58.1 per cent on the value of transactions.

In this context, the ratio of transaction fees was the lowest among household customers at 51 per cent, whereas it amounted to 64 per cent for sole proprietors and 76 per cent for corporate customers. The share of value-based bank revenues was outstanding, at over 90 per cent in the case of credit transfers frequently used by corporations. These costs, which are directly related to the number or value of transactions, result in significant additional costs for customers, even without an increase in bank fees, due to the growing use of electronic payment services and rising transaction values as a result of inflation, thereby hindering the evolution of electronic payment services and impairing the competitiveness of the economy.

Chart 11
Bank revenue shares based on key revenue categories

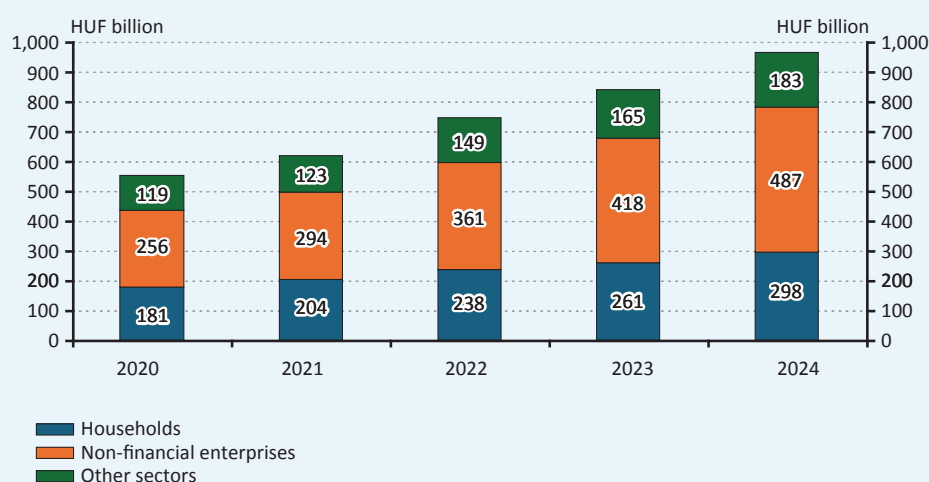


Customers' service charges have skyrocketed in recent years due to inflation-linked fee increases by banks and high transaction fees, rising by almost 65 per cent for the household and by an even higher 90 per cent for the corporate sector between 2020 and 2024. With a view to accurately interpreting the significant increase in costs documented in the corporate sector, it is important to note that the total value of credit transfer and direct debit transactions conducted by entities in this sector rose by 67 per cent, while the number of bank accounts held by them increased by less than 11 per cent in that period. Corporate customers actually have less opportunities to switch to an alternative instead of electronic transactions due to statutory requirements, and additional services

used (lending, card acceptance) make it more difficult for corporations to switch banks. Competition is low in this segment, as in the case of household customers, which results in significant additional costs, particularly for small enterprises and sole proprietors.

High costs are especially detrimental to sole proprietors with typically lower revenues. The average annual bank account management fee for a sole proprietor account amounted to HUF 35,733 in 2024 excluding transaction fees. Credit transfer charges are also high in this sector, as the revenues collected for initiating credit transfers in the sector accounted for 0.27 per cent of the credit transfer turnover value during the year.

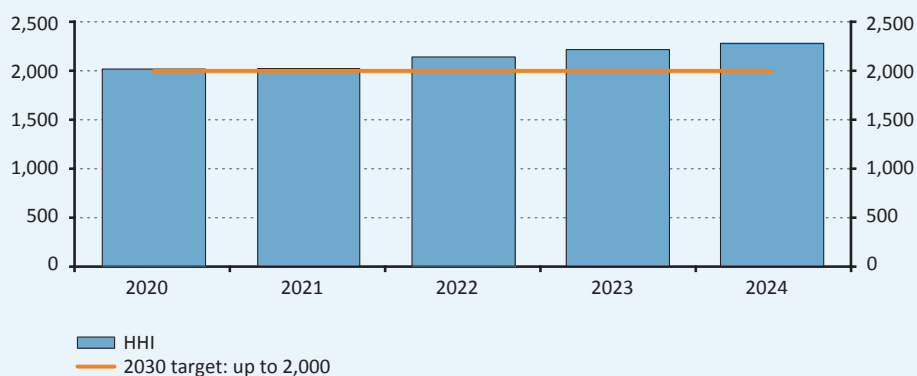
Chart 12
Payment service revenues by customer sectors



2.1.1.2 Concentration in the Electronic Payment Services Market

The MNB assesses the market share of sector participants through transactions initiated by payment service providers' customers and calculates the extent of market concentration on that basis. The lower the index, the less concentrated the market. If the value falls below 2,000, it indicates medium or low market concentration. If payment service providers start to compete for customers, customers will be able to access cheaper, higher quality services.

Chart 13
Herfindahl-Hirschman Index (HHI) in the electronic payments market



Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
2,026	2,221	2,284	+62	up to 2,000
Herfindahl-Hirschman Index (HHI) as a percentage of electronic transactions initiated ⁴ = $s_1^2 + s_2^2 + \dots + s_n^2$				

Market concentration based on the number of transactions continued to increase last year, which may weaken competition in the payment services market, potentially causing higher costs and slower service development for customers in the longer term. Concentration rose by 2.8 per cent on an annual basis. The uneven distribution of transactions initiated by domestic market participants significantly influences the market weight of individual actors, thereby determining their room for manoeuvre in introducing new services and setting service prices. In several cases, this has led to slower innovation and higher prices within this market segment. A reduction in market concentration could be achieved either through a proportionally greater increase in the transaction volume of smaller credit institutions or through the emergence of a new player generating a substantial volume of transactions.

In addition to traditional domestic actors, the presence of foreign payment service providers may considerably stimulate competition in the payment services market. By the end of 2024, alongside payment service providers headquartered in Hungary or operating through branches

established locally, foreign providers already had over 1.5 million Hungarian customers. These foreign payment service providers are able to attract a significant customer base by offering user-friendly services, competitive pricing and customer-friendly applications. Their presence therefore substantially intensifies competition in the payments market, leading to improved banking offers available to customers.

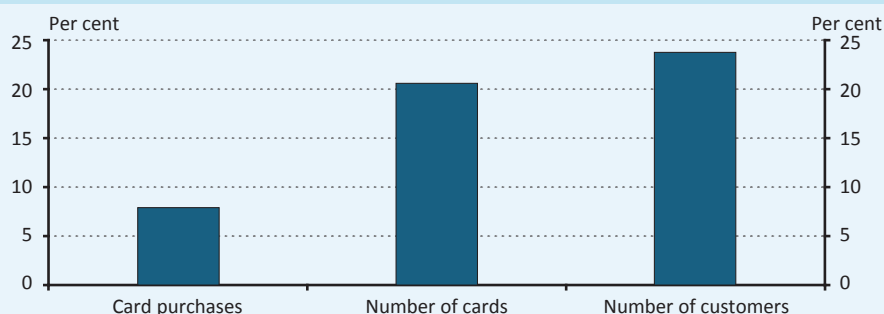
In 2024, Hungarian customers made purchases exceeding HUF 1,500 billion using cards issued by foreign service providers, but a significant proportion of customers continue to use these services primarily as secondary bank accounts. While this clearly reflects the popularity of such providers, the usage characteristics of these cards still differ considerably from those of domestic issuers. The transaction volume per card is significantly lower, and purchases are far more likely to occur online and abroad. This suggests that foreign providers are frequently used to keep supplementary accounts, given that they often offer basic services free of charge, but may not provide the full range of banking services.

⁴ s: the market share of the payment service provider out of all electronic transactions initiated. Electronic transactions include transactions initiated using cards issued in Hungary, as well as the debit side (payee data) of credit transfers and direct debits. n: number of market participants in the payment services sector.

Based on their combined customer base, foreign service providers would already rank among Hungary's leading banks in terms of both customer numbers and transaction volumes. At the end of 2024, these service providers would have been the third largest bank in Hungary by customer

numbers and the fifth largest institution by payment card transaction volumes. However, it is important to note that these providers lag behind domestic institutions in a comparable position in terms of both deposit volumes and credit transfer transactions.

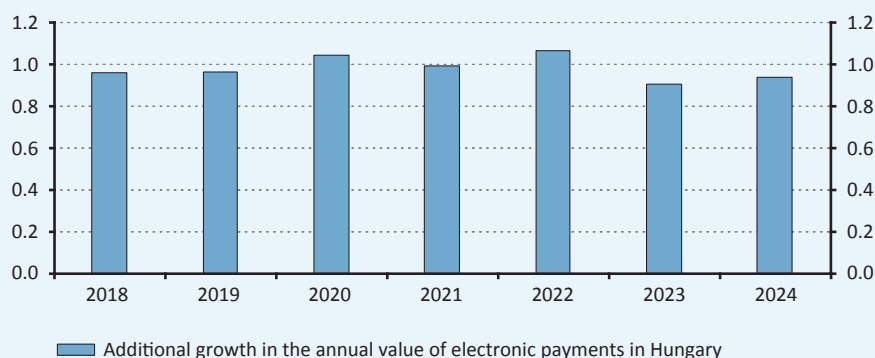
Chart 14
Share of key payment data of foreign providers relative to the Hungarian banking sector



2.1.1.3 Annual Additional Growth of Electronic Payments Compared to Economic Growth

The total value of electronic payments is influenced by changes in payment habits, the performance of the national economy and price levels. Economic growth or inflation may lead to an increase in the total value of electronic payments even without any shift in the ratio of cash to electronic payment methods by number of transactions. This indicator enables the monitoring of changes in the total value of payment transactions relative to GDP at the level of the whole economy.

Chart 15
Annual additional growth of electronic payments compared to economic growth



Note: From this year onwards, in calculating the indicator, we use data on credit transfer transactions filtered to exclude intra-group cash-pooling. This filtering has also been applied retrospectively back to 2020, and thus from 2020 onwards the values differ from those previously published. Accordingly, instead of assessing attainment of the previously published target values, changes in the indicator are evaluated individually on an annual basis.

Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
0.99	0.9	0.94	+0.04	The change in this indicator is assessed individually each year
Annual additional growth of electronic payments compared to economic growth ⁵ = $\frac{\text{Increase in the annual value of electronic payments}}{\text{Annual GDP growth}}$				

⁵ Electronic payment transactions include credit transfers (both single and batch, in HUF, a foreign currency, domestic and foreign), direct debits, as well as transactions executed with payment cards issued domestically. The annual percentage change in the total value of these transactions is compared to the annual percentage change in GDP.

In the past year, the total value of domestic electronic payments grew at a slower pace than nominal GDP, although the indicator still recorded a modest increase. In 2024, the value of electronic payments rose by 1.3 per cent to HUF 662 trillion, lagging slightly behind growth in nominal GDP, which expanded by 7.9 per cent to HUF 81.5 trillion last year. However, this does not imply a lack of progress in electronic payments. As other indicators also show, in several sub-areas, particularly in retail and bill payment transactions most relevant to households, the share of electronic payments continued to increase. Moreover, a significant proportion of corporate payment transactions was already electronic in previous years, as in many cases cash payments are neither operationally feasible nor legally permissible.

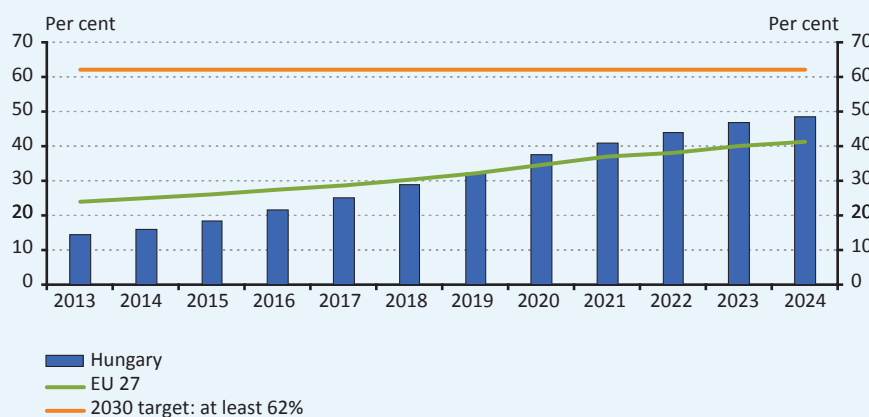
When interpreting the value of the indicator, it is important to take into account that it can be significantly influenced by developments in the trade balance. While GDP growth is affected by exports increasing at a faster pace than imports, growth in the total value of electronic

payment transactions initiated by Hungarian economic agents is primarily driven by the expansion of imports. This is because the indicator helps us to track the total value of transactions initiated by domestic economic actors, thereby reflecting changes in their payment habits. By contrast, as exports grow, the total value of transactions initiated from abroad towards domestic actors also rises, which is not captured by the indicator. In 2024, the nominal value of exports did not change materially, decreasing by only 0.4 per cent, while the nominal value of imports fell by 2.3 per cent, causing net exports to rise by 31.2 per cent. This contributed to GDP growth, whereas in the context of foreign trade, the total value of transactions initiated by domestic economic actors declined. Based on the above, the primary purpose of the indicator is to provide a comprehensive overview of the relationship between domestic payments and the performance of the overall economy, while a more precise assessment of payment developments requires an examination of other elements of the indicator set as well.

2.1.1.4 Share of the Value of Electronic Purchases

This indicator makes it possible to determine the annual share of electronic purchases within total household consumption and to compare this with international data as well. A higher value reflects more intensive use of electronic payment methods among consumers, i.e. an increasing share of purchases are made without the use of cash. This also serves as a clear indicator of the development of the domestic electronic payments market.

Chart 16
Share of the value of electronic purchases



Note: The data for the EU-27 in 2024 are estimates based on data from 2024 H1.

Source: ECB, Eurostat, MNB

Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
41%	47%	48%	+1 percentage point	at least 62%
Share of the value of electronic purchases ⁶ = $\frac{\text{Total annual value of electronic purchases}}{\text{Annual household consumption}}$				

⁶ Electronic purchases: Currently, the numerator of the indicator includes data on card payments among electronic payment methods, as this represent the most frequently used alternative to cash. In the future, for example as the instant payment acceptance network expands, data on other electronic payment methods may also be incorporated into the data used for calculating the indicator. The denominator is annual household consumption.

The share of electronic purchases in Hungary continues to increase at a faster pace than the EU average, rising by more than 1 percentage point in 2024. Thus, the domestic figure now exceeds the EU average by 7 percentage points. In recent years, growth has been driven primarily by the substantial rise in the number and value of online card purchases and influenced to a lesser extent by the increasingly widespread use of mobile payments. In addition, the share of electronic transactions in retail has steadily expanded, further supporting the positive change in the indicator. In the future, the uptake of qvik services based on instant payments may also contribute to maintaining or even accelerating the growth rate.

Since 2019, the value of card purchases has increased two and a half times. In 2019, the turnover of purchases with cards issued by domestic providers amounted to only HUF 7.7 trillion. By contrast, in 2024, the payment card transaction volume already reached HUF 19.7 trillion. Over the same period, the number of card purchases nearly doubled, rising from 995 million to 1,973 million. This reflects the significant expansion of electronic payments; however, considerable differences remain across various payment situations.

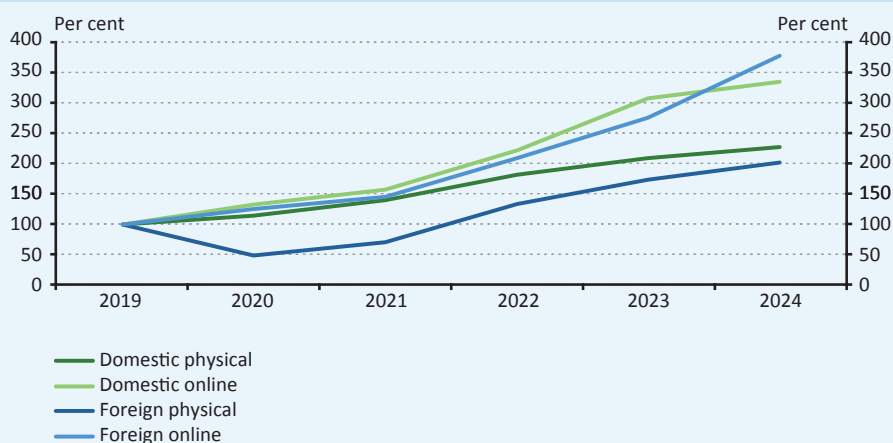
Since 2019, there has been a significant shift in the composition of card payments, with foreign online payments in particular experiencing strong growth. In 2019, only 23.5 per cent of the value of card payments was attributable to online purchases, while by 2024 this share had risen to 32.4 per cent. Over the same period, the share of foreign purchases increased from 13.9 per cent to 17.5 per cent. This growth was partly supported by the expansion of tourism and, to a lesser extent, by an increase in cross-border purchases, but the main driver of growth in foreign purchases was the surge in foreign online payments. Since 2019, such foreign online payments have grown by 279 per cent, while domestic online payments

have increased by 236 per cent. The rapid rise in foreign online payments can be attributed to several factors. On the one hand, a growing number of digital services, subscriptions and software purchases from international technology companies have emerged since 2019, such as the widespread adoption of streaming services. This growth in foreign online payments has also been fuelled by the expansion of foreign e-commerce platforms, including Chinese providers that have entered the market in recent years. It is also important to note that foreign online transactions include card top-ups for cross-border fintech providers' accounts; however, the funds loaded onto these accounts are predominantly spent by customers on online and foreign purchases. These figures therefore also reflect the steadily increasing popularity of online commerce.

An opposite trend can be observed in purchases made in physical environments, where domestic purchases grew more strongly than foreign ones. Compared to 2019, the total value of domestic physical purchases increased by 128 per cent, while the value of foreign physical purchases, which is considerably lower in total, rose by only 102 per cent. Thus, domestic physical purchases still make up the majority of card purchases, though their share is declining. Their share fell from 72.1 per cent in 2019 to 64.2 per cent in 2024.

Although the share of domestic and foreign physical purchases changed only slightly up to 2024, their growth trajectories differed significantly. In 2020, the total value of foreign card payments dropped to less than half of the 2019 level, while that of domestic physical purchases rose by 14 per cent. Thus, although from 2022 the value of foreign physical purchases grew at an average annual rate of 23 per cent, compared to 12 per cent for domestic purchases, this faster growth does not indicate a longer-term shift, but rather reflects a recovery towards the pre-pandemic trend.

Chart 17
Trends in card purchase values (2019 = 100)



2.1.2 Use of Electronic Payment Solutions on the End-user Side

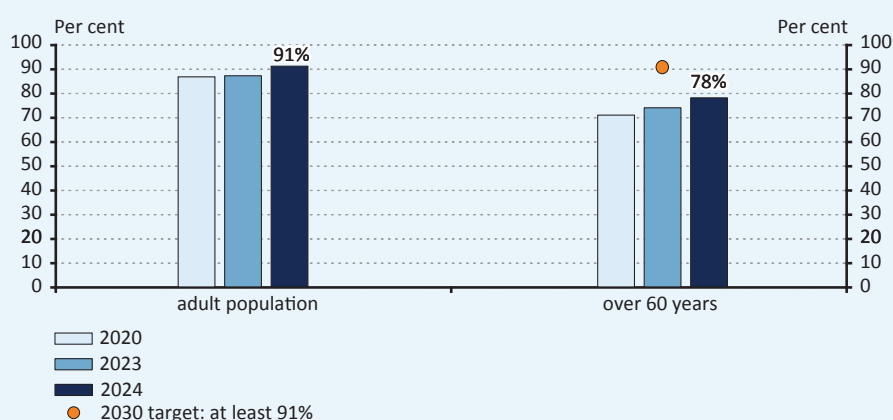
In order to increase the share of electronic transactions and to support this through targeted measures, it is necessary to continuously monitor, on the end-user side, and how

the share of users of electronic services is developing across various sub-areas identified for improvement.

2.1.2.1 Account Penetration of People Aged 60 and Over

A basic prerequisite for the use of electronic payment methods is to have access to such solutions, which is best measured by account ownership. As coverage among those under 60 is close to 100 per cent, and significantly different among those over 60, the indicator focuses on the latter age group.

Chart 18
Share of people aged 60 and over with access to a bank account



Note: For questionnaire-based surveys, while they are representative of the population with regard to the most important dimensions of the examined subject (age, gender, type of settlement by location, educational attainment, region), sample composition to a degree, impacts the results. In breakdowns not affecting dimensions considered for representativeness, it may cause a deviation of at most a few percentage points compared to results that would be obtained from identical samples. We have considered this factor when comparing and evaluating results from various years.

Indicator value 2020	Indicator value 2023	Indicator value 2024	Change in 2024	Target
71%	74%	78%	+4 percentage points	at least 91%
Account penetration among people aged 60 and over ⁷ = $\frac{\text{Number of residents aged 60 and over with an account}}{\text{number of residence aged 60 and over}}$				

In the past year, account coverage among those over 60 continued to expand, with 78 per cent holding their own bank account in 2024 – a significant increase compared to previous years. 91 per cent of the adult population have their own bank account, which has increased slightly in recent years. The continuous increase in the number of retail bank accounts is the result of two factors: firstly,

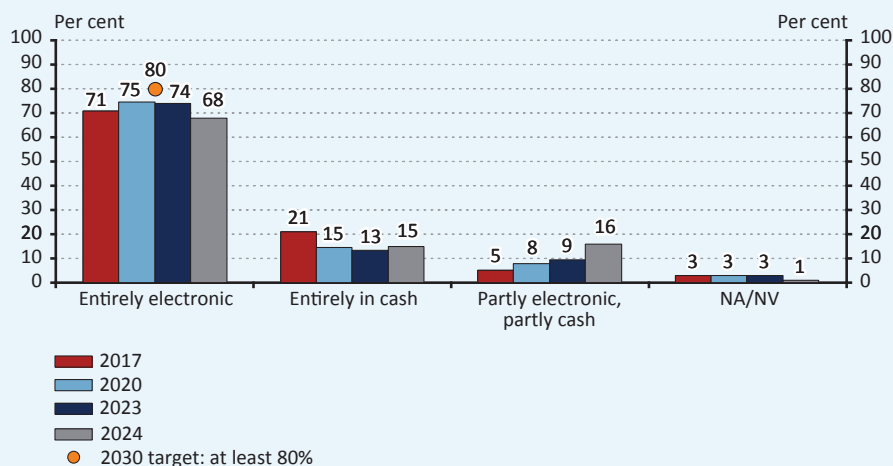
a rise in the number of account holders, and secondly, people who already had an account now have more accounts. Among those under 60, the account ownership rate remains above 90 per cent, typically highest in the younger age groups. The growth rate compared to 2023 exceeded the level that could be attributed solely to the number of people reaching retirement age.

⁷ The indicator is calculated by the MNB based on a household questionnaire survey; therefore, unlike the other indicators, it also includes accounts held with foreign service providers.

2.1.2.2 Share of People with Electronic Income Only

Electronic income facilitates and encourages the use of electronic payment methods, as in most payment situations it enables quick, convenient electronic transactions without the need to withdraw cash. It is therefore worthwhile to monitor the share of individuals with electronic income and to develop targeted measures aimed at increasing this share.

Chart 19
Form of regular income



Note: For questionnaire-based surveys, while they are representative of the population with regard to the most important dimensions of the examined subject (age, gender, type of settlement by location, educational attainment, region), sample composition, to a degree, impacts the results. In breakdowns not affecting dimensions considered for representativeness, it may cause a deviation of at most a few percentage points compared to results that would be obtained from identical samples. We have considered this factor when comparing and evaluating results from various years.

Indicator value 2020	Indicator value 2023	Indicator value 2024	Change in 2024	Target
75%	74%	68%	-6 percentage points	at least 80%
Share of people with electronic income only = $\frac{\text{Adult population receiving their income entirely by electronic means}}{\text{Number of adult population}}$				

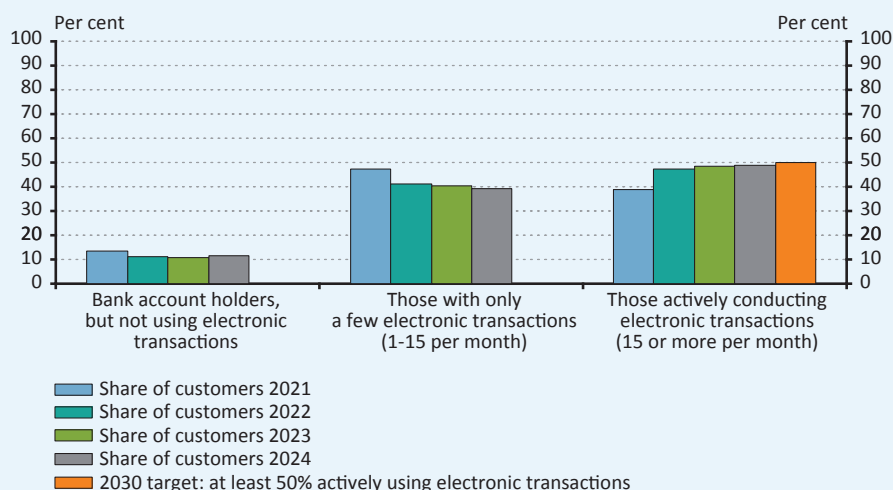
The share of adult population with only electronic income fell to 68 per cent in 2024. In addition to the lower share of people with only electronic income, the share of people with only cash income increased to a lesser extent. The share of people who receive their income partly electronically and partly in cash rose to 16 per cent, which represents a significant increase compared to previous years. The shift to this segment largely came from white-collar workers, office employees and manual labourers with fully electronic incomes. In addition to this, the share of those with fully cash income has increased by 3 percentage points for office employees. This more significant change may have been influenced by the high

inflation environment that was characteristic in recent years, which may have led some households to seek additional sources of income, such as a second job or extra work. In a number of cases, this additional income may be received in cash compared to their previous regular income. The increase in the share of people with cash incomes may have an effect on payment transactions and multiple areas of the economy as a whole. Among other things, it may increase the share of cash transactions for purchases, bill payments and transactions between persons, which may also degrade the operational efficiency of the stakeholders involved in transactions, and thereby the competitiveness of the national economy as a whole.

2.1.2.3 Share of People Actively Engaging in Electronic Transactions

With this indicator, the MNB examines what share of households with bank accounts actively use electronic payment solutions, meaning at least 15 times a month, i.e. how widely electronic payments have become a part of everyday life. With an increase in the share of people actively conducting electronic transactions, these transactions originate from an increasingly broad segment of the population.

Chart 20
Distribution of the shares of household customers among groups established based on their use of electronic payments



Note: Starting from 2022, instead of aggregating the transactions of account holders at the bank level, we aggregate transactions at the sectoral level, per client. Due to this change in the methodology, the share of electronically active customers increased significantly compared to the 2021 figure. Using the previous methodology, the 2022 value would have been 43 per cent.

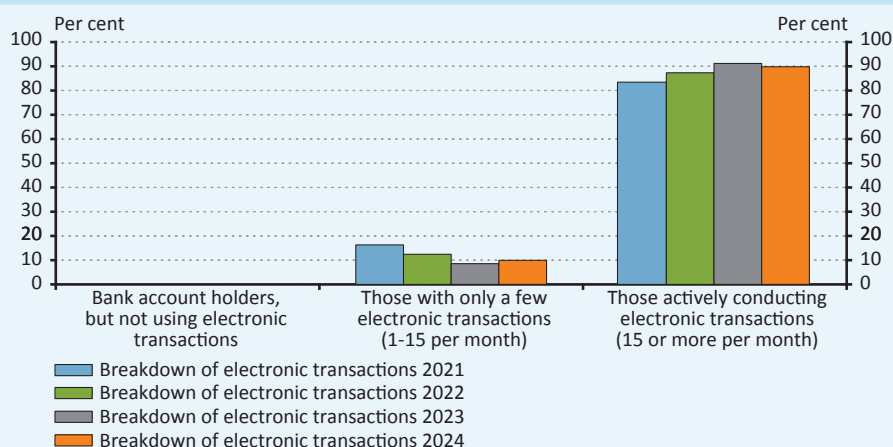
Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
39%	49%	49%	0 percentage point	at least 50%
Share of people actively engaging in electronic transactions ⁸ = $\frac{\text{Number of household customers who conduct at least 15 electronic transactions per month}}{\text{Number of household customers}}$				

The share of people actively conducting electronic transactions did not rise significantly in 2024: 49 per cent of account holders remained active in this regard, meaning that the group of customers who regularly make electronic payments in their everyday lives remained essentially unchanged. 40 per cent of account holders conduct electronic transactions less than 15 times a month, whereas 11 per cent do not carry out electronic transactions at all. The share of customers actively conducting electronic transactions has increased consistently in previous years, partly due to the fact that most payment situations now allow for electronic payment and partly because the use of electronic payment methods is faster and more convenient. One contributing factor, for example, is the widespread adoption of mobile wallet payments, as well as the emergence of instant payments, and payment solutions based on it. Even though the share of people actively conducting electronic transactions did not

increase in 2024, the volume of electronic payments expanded at a dynamic rate. As a result, the number of transactions rose for people conducting fewer electronic transactions, as well as active users, with a greater increase observed in the former group, which accounted for 10 per cent of all electronic transactions. Nevertheless, growth within this group was not significant enough for a larger segment of customers to become active users. In addition, although the current value is already close to the target set in the payment transaction strategy, it remains important to continuously encourage the use of electronic payment methods and to augment public awareness in this area, as the share of households that do not use electronic payments at all is still high, at 11 per cent. Based on this, more affordable and higher-quality services may be needed to encourage the people who either do not use electronic payments at all or use them infrequently to utilise electronic payments more often.

⁸ The indicator takes into account various payment transactions carried out through payment accounts (credit transfers, direct debits, standing orders, foreign currency transfers) and the associated debit cards (domestically and abroad).

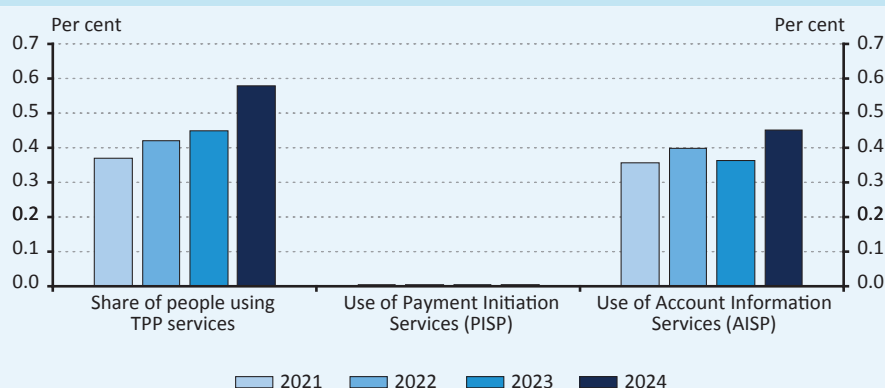
Chart 21
Distribution of households' electronic transactions by groups established based on their use of electronic payments



2.1.2.4 Share of Customers Using Third-party Providers' (TPPs) Services

With this indicator, the MNB examines the number of accounts, relative to all payment accounts, for which a payment initiation service (PISP) or account information service (AISP) has been registered, or from which a credit transfer was initiated via PISP, or account information was accessed via AISP. The emergence of third-party service providers may stimulate market competition and increase customer awareness regarding financial decisions, including choosing the account package that best suits their payment habits. The activities of such providers may contribute to the development of electronic payments by enabling users to manage their finances more conveniently and easily, and allowing them to access the information they need to make well-informed financial decisions.

Chart 22
Share of customers using third-party services



Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
0.4%	0.4%	0.6%	+0.2 percentage points	steady rise

The MNB examines the share of customers using third-party services as a combination of three components and considers the highest value among these sub-indicators when determining the overall value of the indicator:

$$\text{Share of users of TPP services} = \frac{\text{Number of accounts registered with PISP or AISP services}}{\text{Total number of payment accounts}}$$

$$\text{Usage of Payment Initiation Services (PISP)} = \frac{\text{Number of accounts from which transfers are initiated through PISPs}}{\text{Total number of payment accounts}}$$

$$\text{Usage of Account Information Services (AISP)} = \frac{\text{Number of accounts from which information is retrieved through AISPs}}{\text{Total number of payment accounts}}$$

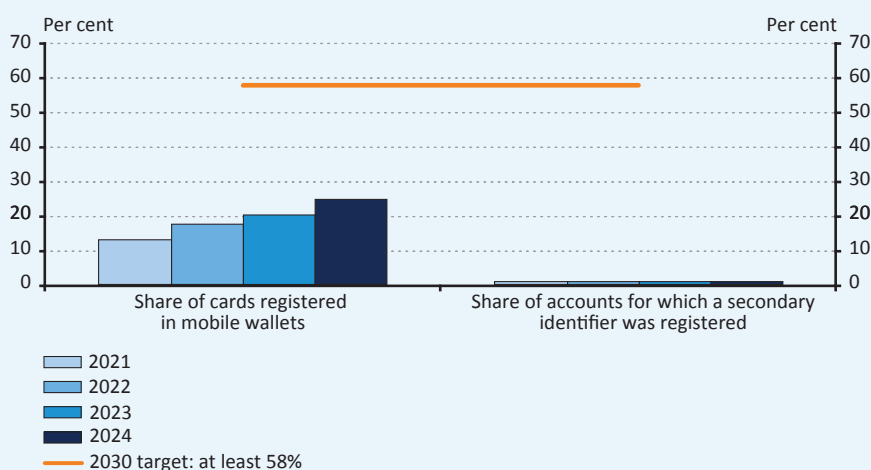
The share of account holders using third-party services (TPPs) increased slightly, but their proportion relative to all payment accounts remains negligible. Therefore, the MNB will continue to pay special attention to this market segment, in order to monitor and eliminate any factors hindering the provision of such services. Compared to the past few years of stagnation, in 2024 the proportion of customers using third-party services rose by 0.2 percentage points, to a total of 0.6 per cent. Within the scope of third-party services, customers mainly use

account information services: the share thereof increased by 0.1 percentage points, to a total of 0.5 per cent. As the indicator value does not reach even one per cent, the number of customers using such services can continue to be seen as minimal. This is partly due to the fact that, from a technical standpoint, the operation of these services and the interactions between TPPs and banks are still not seamless; furthermore, no suitable business models capable of reaching a broad customer base have emerged so far.

2.1.2.5 Share of Users of Innovative Payment Solutions

The MNB uses this indicator to monitor the share of customers using innovative payment solutions. The two areas specifically examined within this are mobile payment services via bank cards and secondary account identifiers pertaining to instant payments. The use of these services can simplify electronic payments in many payment situations and therefore expand the scope of customers who regularly use electronic payments, while possibly also contributing to boosting the share of electronic transactions.

Chart 23
Share of customers using innovative payment solutions



Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
13%	20%	25%	+5 percentage points	at least 58%

Composite indicator using the following elements:⁹

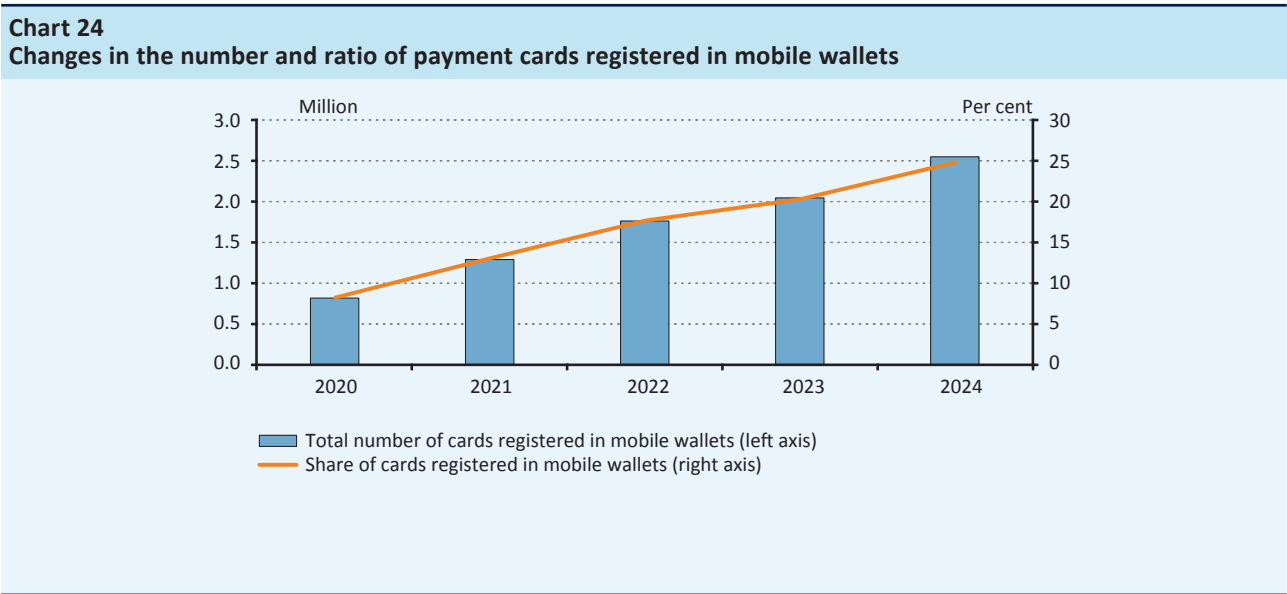
$$\text{Share of cards registered in mobile wallets} = \frac{\text{Number of cards registered in mobile wallets}}{\text{Total number of payment cards}}$$

$$\text{Share of accounts with secondary account identifiers registered} = \frac{\text{Number of accounts with secondary account identifiers registered}}{\text{Total number of payment accounts}}$$

⁹ When determining the value of the indicator, the higher value of the two sub-indicators is taken into account, as it can be assumed that there is a significant overlap between the users of the two types of services. In subsequent years, the development of innovative payment services may expand the range of sub-indicators that are taken into account.

One-quarter of households already use innovative payment solutions, and this share continued to increase in 2024, with the popularity of mobile payment services growing in particular. Mobile payment services via bank cards have become available at any bank with a significant number of household customers in the past few years, and based on trends in recent years, it is clear that shortly after these become available, a wide range of customers begin to use them. As a result of qvık payment services becoming available in 2024 for every household customer, an increased number of customers may begin using the mobile payment services in the coming years. The use of secondary account identifiers also tracked for this indicator has still not spread, but with the development of payment solutions based on instant payments, this may still present an opportunity.

In 2024, the number of users of mobile payments with cards continued to grow rapidly, with the number of cards registered in mobile wallets exceeding 2.5 million. Within a year, the number of registered cards has increased by 25 per cent, which indicates the simple and widespread availability of the payment solution, as well as its rapid growth in popularity. As a result of this, nearly one-quarter of payment cards had been registered to mobile wallets by the end of 2024. Since 2020, the share of cards registered in mobile wallets has been steadily increasing by an average of 4.1 percentage points per year, meaning that Hungarian customers have been registering an average of around 435,000 payment cards in mobile wallets annually.



2.1.3 Share of Electronic Payment Transactions on the End-user Side

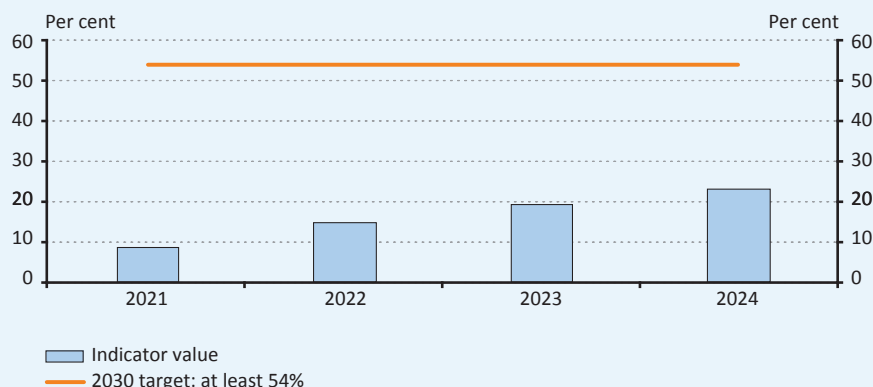
In order to design targeted measures needed for the development of electronic payments, the prevalence of service usage must also be considered. These indicators allow for the monitoring of usage trends in areas that require development.

2.1.3.1 Adoption Rate of Innovative Payment Solutions

In addition to the number of customers using innovative payment solutions, it is also important to monitor how frequently these solutions are used. Their adoption and acceptance are indicated by the increasing share of such transactions in overall domestic electronic payment transactions. Such solutions include mobile payments, the utilisation of payment initiation service providers, instant credit transfers initiated via secondary account identifiers or request-to-pay and instant payments initiated using qvık QR codes, by contact (NFC) or via a link. These may offer added value for customers, making electronic payments simpler, faster and last but not least, more convenient.

Chart 25

Share of customers using innovative payment solutions in relation to total purchase transactions via card and instant payments



Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
9%	19%	23%	+4 percentage points	at least 54%

The calculation of the indicator:

$$\text{Indicator value} = \frac{\text{Total innovative bank card and instant payment transactions}}{\text{Total purchase transactions by bank cards and instant payment transactions}}$$

The indicator is composed of the following sub-indicators:

$$\text{Share of mobile payment transactions within electronic payment transactions} = \frac{\text{Number of mobile wallet transactions by bank card and instant payments initiated via QR code, contact (NFC) or deeplink}}{\text{Total number of bank card and instant payment transactions}}$$

$$\text{Use of request-to-pay services} = \frac{\text{Number of credit transfers initiated as a response to request-to-pay}}{\text{Total number of instant payments where the initiating channel was the internet bank, the mobile bank or TPP (PISP)}}$$

$$\text{Use of secondary account identifier service} = \frac{\text{Number of credit transfers initiated to secondary account identifiers, that were not initiated as a response to request-to-pay}}{\text{Total number of instant payment transactions where the initiating channel was the internet bank, the mobile bank or TPP (PISP)}}$$

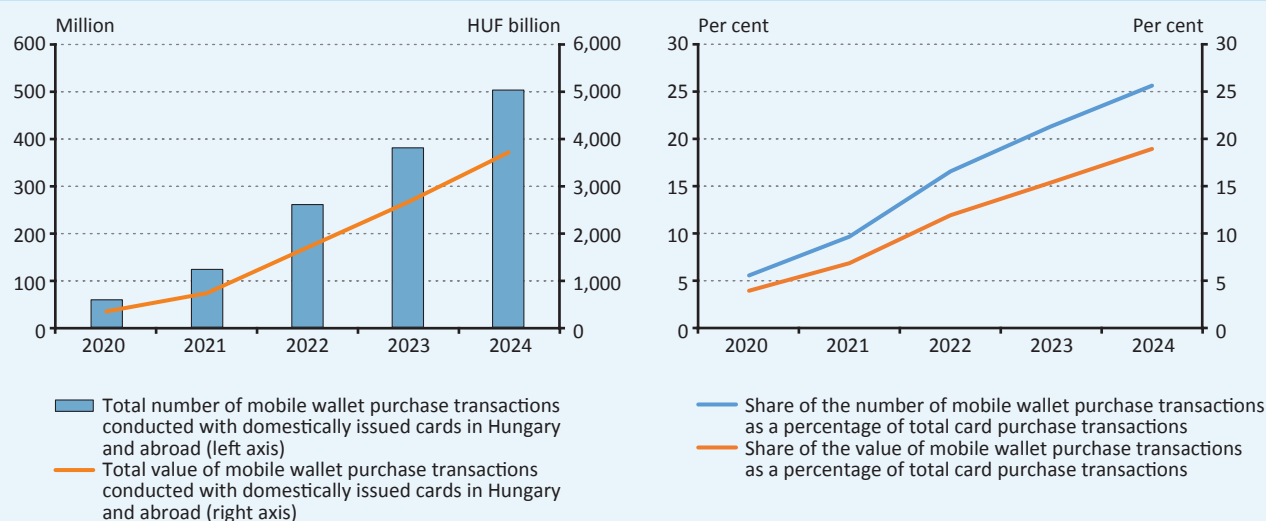
The use of innovative payment solutions continued to grow rapidly, with its share reaching 23 per cent of all transactions in 2024. In the future, however, greater attention must be paid to ensuring that the use of these services spreads beyond the customer base that is already open to innovative solution. Out of the services examined in relation to the indicator, the most transactions were made using cards registered to mobile wallets, as the number of these transactions grew by 32.2 per cent annually, as a result of which more than one-quarter of all card payments are now made using this solution. The new qvik instant payment solution launched in September 2024 is being used by more and more customers. The number of instant credit transfers initiated using QR codes, NFC or via link reached nearly 414,000 by the end of April 2025, whereas the number of instant payments initiated via request-to-pay passed 1 million in 2024. As a result, the value of the first two sub-indicators also increased significantly. Within electronic payments, the share of

mobile payment transactions was 23 per cent, and more than 1 per cent of all instant payments were initiated via request-to-pay. Since no service has yet appeared on the market that meaningfully encourages the widespread use of secondary account identifiers, these identifiers were used in only 0.1 per cent of instant payments initiated online or via mobile. In the future, these may play a significant role in simplifying account changes, in addition to initiating payment transactions.

Within a single year, the total value of mobile wallet purchases increased by 39 per cent to HUF 3,700 billion; domestic customers purchased HUF 1,000 billion more using this option than in the previous year. In 2024, 25.6 per cent of the number of card purchases and 18.9 per cent of their total value were paid from mobile wallets, thanks to year-on-year increases of 4.3 per cent and 3.6 per cent, respectively. Consequently, in 2024 H2, HUF 1,000 billion in purchases were being made using mobile wallets

Chart 26

Number, value and share of mobile wallet purchase transactions within all card purchases



quarterly. Simultaneously with this, the number of purchase transactions rose by 32.2 per cent on an annual basis.

From September 2024, qvık payments can be initiated from all bank applications, i.e. QR code, touch (NFC) and deeplink payment, and qvık requests (request-to-pay) can be received (from April 2024). In 2024, more than 1.1 million qvık requests were realised with a total value of nearly HUF 120 billion, and more than 65,000 payments were made using QR codes, NFCs and deeplinks with a total value of HUF 1.6 billion. At the end of 2024, a total of 30,000 online and physical retailers offered the possibility of paying with qvık.

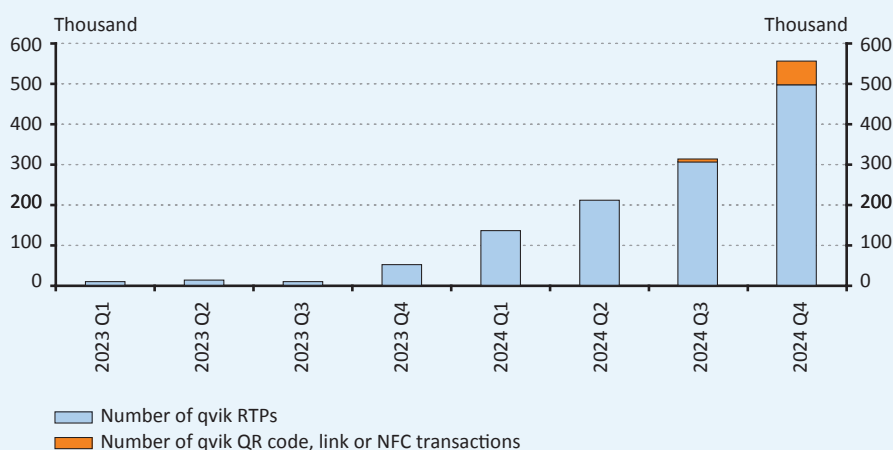
The number of qvık payments rose continuously and significantly last year. In 2024 Q4, the number of qvık requests increased by 52 per cent, while in the fourth

quarter, the number of QR code, touch or link payments increased more than fivefold compared to the previous quarter. Approximately 90 per cent of QR code, touch and link payments are effected at online retailers. This is explained by the fact that this method of payment mostly became available as a first step at online retailers. For these payments, qvık transactions can be often more convenient than card or cash-on-delivery payments.

Qvık requests are currently mostly used by private individuals to send money to one another, but some invoice issuers have also begun sending qvık requests for some of fee collections. The average value of qvık requests increased significantly in 2024, from HUF 43,000 to about HUF 150,000. Based on this, customers prefer this method for transferring large amounts, as it is available free of charge to everyone, helping to save significant costs.

Chart 27

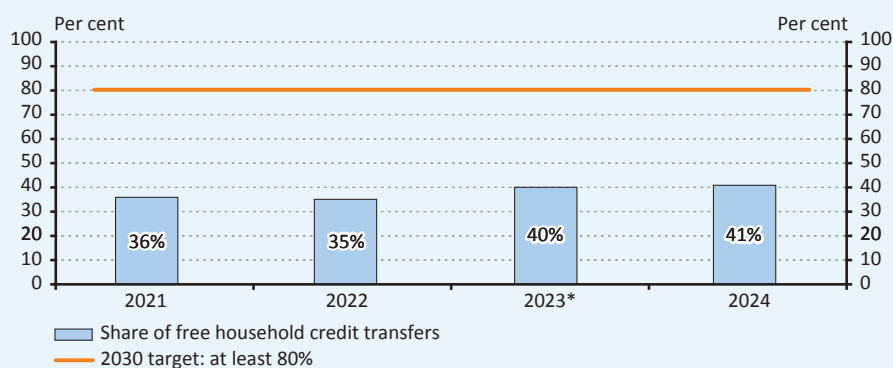
Number of qvık payments



2.1.3.2 Share of Free Household Credit Transfer Transactions

Costs directly linked to transactions may significantly inhibit use of the electronic payment methods, as this makes the customers face the costs at each payment, in contrast to, for example, the seemingly free use of cash. For this reason, the significant spread of the option to use credit transfers too without direct transaction fees is important. With the help of this indicator, the MNB tracks the share of free transactions within all credit transfers.

Chart 28
Share of free household credit transfers



* The change in comparison to the data published earlier was caused by correction by the data provider.

Indicator value 2021	Indicator value 2023*	Indicator value 2024	Change in 2024	Target
36%	40%	41%	+1 percentage point	at least 80%
Share of free household credit transfer transactions ¹⁰ = $\frac{\text{Number of free individual household credit transfer transactions}}{\text{Total number of individual household credit transfers}}$				

The ratio of free credit transfers was 41 per cent in 2024, showing minimal improvement versus the previous year. Pricing is an important aspect when using electronic payments. As with the introduction of instant payments, credit transfers have, similarly to cards, become a payment solution with a wide range of use cases, it is justifiable that its pricing be adjusted accordingly, i.e. not to have transaction fees linked to it. Fees linked to transactions, which are currently in widespread use, hinder the spread of electronic payments.

For households, the continuous spread of qvık payment solutions raises the number of free credit transfers. From 2024 H2, qvık payments are available at every bank and for every client, which means that this solution can be used at about 30,000 retailers. The credit transfers initiated by qvık requests and the qvık QR code, link and NFC payments are free of charge for all household customers, regardless of number and value, which may render a wide range of credit transfers free of charge. In parallel with the widespread adoption of qvık payments and the increase in turnover, the share of free credit transfers is expected to rise, the effect of which can already be seen in 2024; the slight increase is probably attributable to this. The number of qvık payments rose continuously and significantly even in the period after launch, indicating that customers are keen to use these solutions in various payment situations. The QR code and

link payments provide a quick, convenient and safe solution for online purchases. Because of these, the qvık QR code and link payments can be tied almost exclusively to online purchases, and the average transaction value is also high as a consequence. This value exceeded HUF 26,000, while the corresponding amount for online card purchases was HUF 17,600. Furthermore, the qvık request came into general use for transactions of higher value, as the large share of proportional fees permits the saving of significant amounts for these transactions; consequently, the average value of these transactions increased to HUF 150,000 from HUF 43,000, with a continuously increasing number of requests. In order to enable the indicator to reach at least the target value of 80 per cent, it is necessary that the use of qvık payments become more general than at present in the coming years.

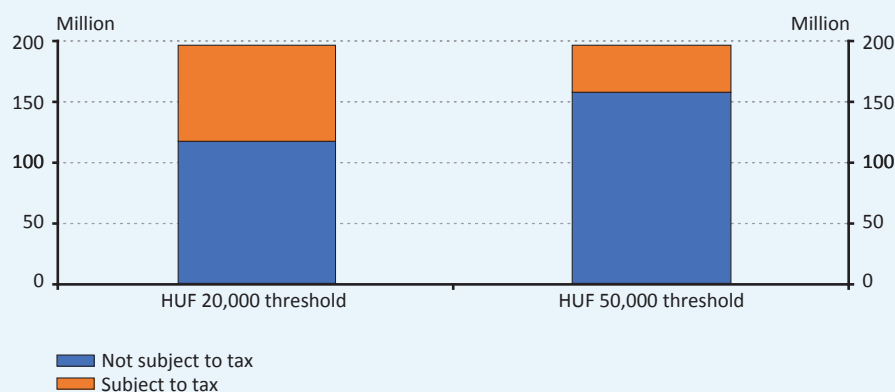
The increase of the amount limit for the exemption from transaction tax for household credit transfers to HUF 50,000 also supports the increased use of credit transfers. From 1 August 2024, the portion of all household credit transfers below HUF 50,000 will be exempted from transaction tax, instead of the HUF 20,000 value limit applied earlier. With this modification a further 40 million additional household credit transfers became completely free of duty payment on an annual level. This makes 80 per cent of household credit transfers exempt from the tax, in contrast to the 60 per cent before the limit was increased.

¹⁰ Free household credit transfers: the number of credit transfers where no fee per transaction is charged.

However, this exemption from transaction tax is not available to household customers at all banks; in certain account packages, the fees increased by the value of the tax apply to these transactions as well. In order to decrease

payment transaction costs, it is particularly important that this cost reduction be passed on to the customers, and that credit transfers free of charge be made available to them at least within this scope.

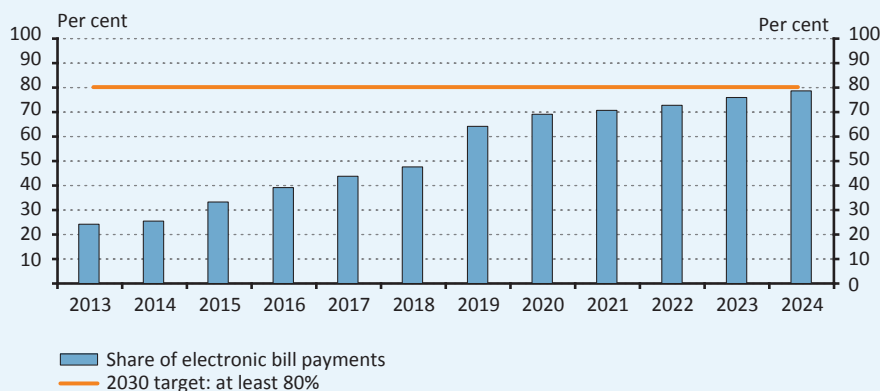
Chart 29
Number of credit transfers exempt from transaction tax based on 2024 transaction data



2.1.3.3 Share of Electronic Bill Payments

MNB uses this indicator to track the payment methods used to pay regular public utility and insurance bills. In the case of such regular payments, the ratio of using electronic payments is significantly higher than in the economy as a whole, but there is nevertheless room for further development in the various sectors. In this field, the improvement of customer experience must be particularly significant in the case of electronic payment, as the bills can be paid this way remotely, without personal presence.

Chart 30
Share of electronic bill payments



Note: Bill payment data before 2019 do not include payments which were not conducted through postal money orders or direct debits (e.g. card payment online or in the service provider's local office, credit transfer), while the continuously increasing payments of postal money orders conducted with payment cards was always included in the indicator.

Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
71%	76%	79%	+3 percentage points	at least 80%
Share of electronic bill payments ¹¹ = $\frac{\text{Estimated annual number of electronic bill payments}}{\text{Estimated annual number of bill payments}}$				

¹¹ Electronic bill payments: Includes bills paid using direct debit, credit transfer, online card payment and postal or customer service centre electronic payment solutions. Pre-2019 data only include electronic payments by postal check or direct debit. The basis of estimating bill payments is the annual survey conducted annually by the MNB among invoice issuers. The ratio of electronic payments by postal checks is estimated by the MNB based on data from Hungarian Post.

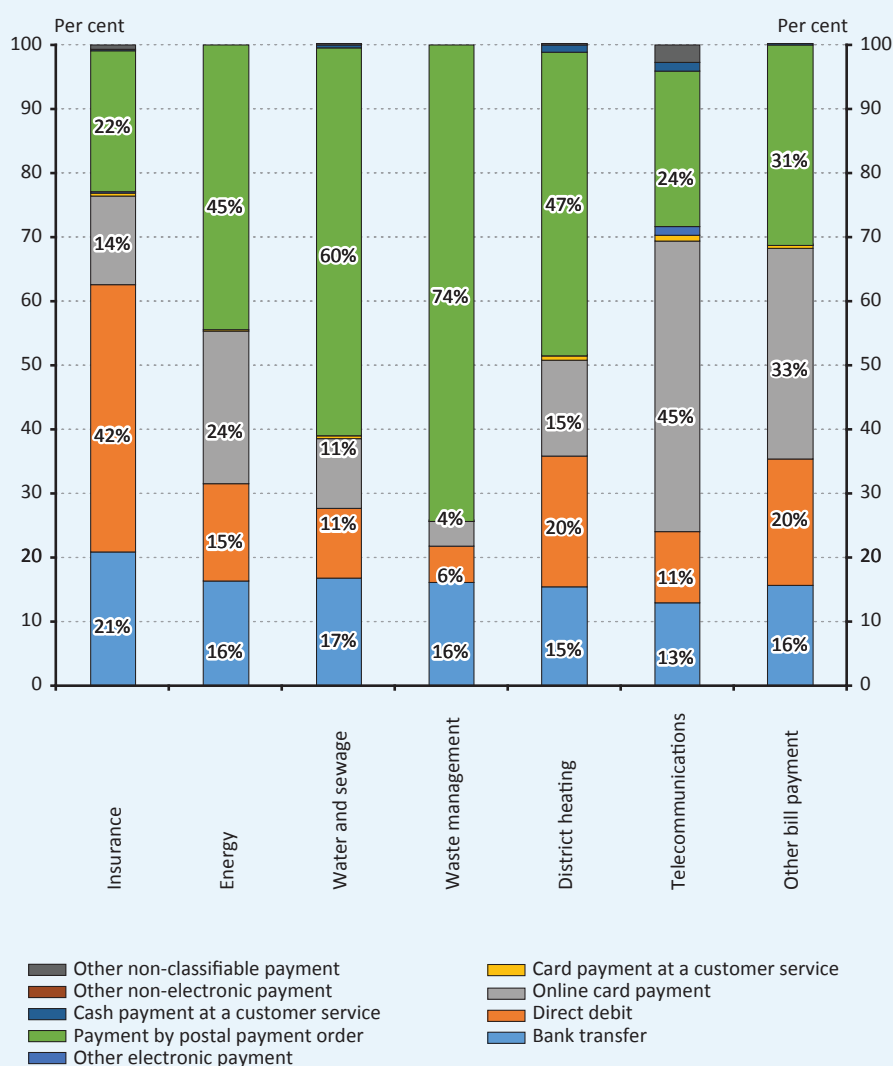
In 2024, the ratio of electronic bill payments increased by another 3 percentage points, only falling 1 percentage point short of the target set by MNB's payments strategy.

Despite the high base, the ratio of electronic bill payments continues to increase at a pace similar to that of previous years, and accordingly the strategy's target value may be achieved as early as next year. This may be further supported by the qvik payment solutions launched at the end of 2024, which may be attractive alternatives to certain service providers and their customers in this sector as well, thereby further increasing the share of electronic payments.

Despite the sectoral differences, the use of postal checks decreased in all areas, while the share of online card payments grew. The increase in the share of electronic payments is partly explained by the significant drop in the

use of postal money orders (so-called yellow and white checks) (by 4 percentage points) and the increased share of electronic payments among the remaining postal money order payments. In contrast to this, the ratio of online card payments rose by the largest extent, growing by 3 percentage points, but even with this, examining the various payment methods separately, the postal money order remains the most popular bill payment solution. Significant differences persist among the various sectors. While about three-quarters of payments in waste management are affected using postal money orders, less than one-fourth of payments were made in this manner in the telecommunication and insurance sectors, with direct debit or online card payment being the most popular here instead. In the future, the new qvik payment solution described in Chapter 2.1.3.1 may be attractive, as it already appeared at certain service providers by the end of the period.

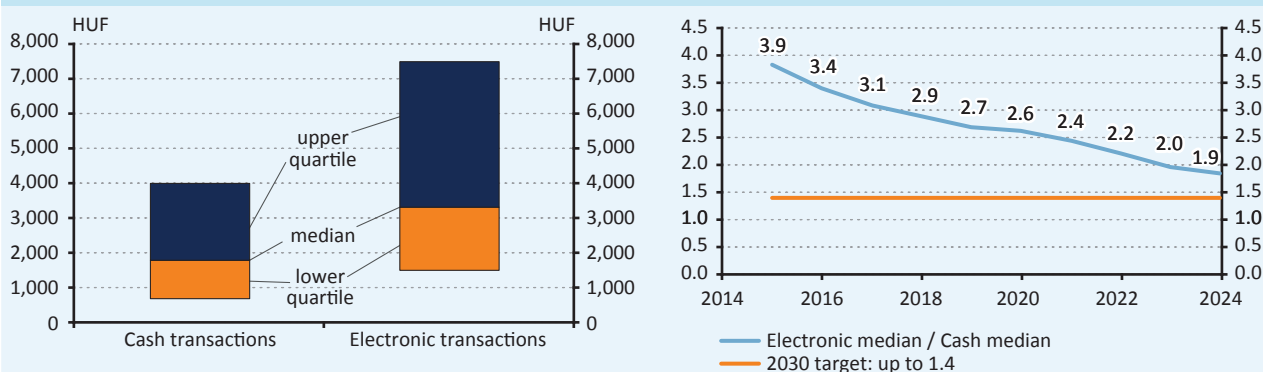
Chart 31
Bill payment methods in sectoral breakdown



2.1.3.4 The uptake of electronic payments in retail payments of the lowest amount

For transactions of the smallest value, a larger proportion of payments are made in cash; this indicator has been specifically created to monitor this. To ensure temporal reliability, instead of examining the distribution of payment methods within the value ranges, the differences in the share of electronic payments between the value ranges is examined by MNB as the quotients of the medians of payment methods.

Chart 32
Main quartiles of cash and electronic transactions in 2024 (left), and the quotient of the medians of electronic and cash payments between 2015 and 2024 (right)



Source: NTCA online cash register database, MNB calculation

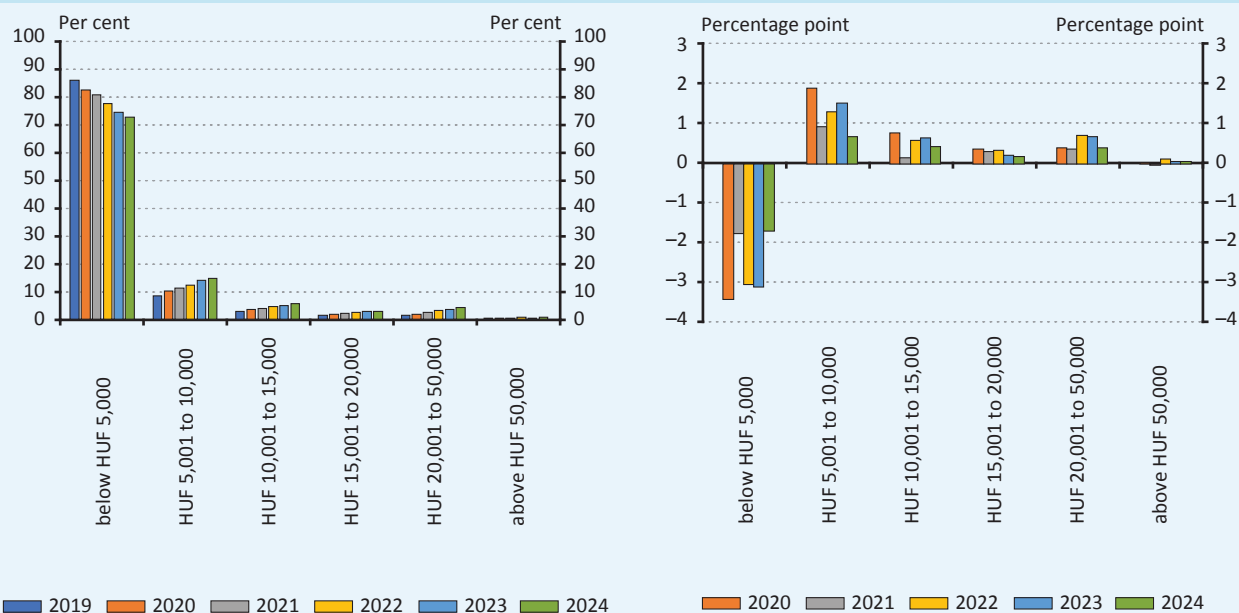
Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
2.4	2	1.9	-0.1	up to 1.4
Indicator value ¹² = $\frac{\text{Median of electronic payments}}{\text{Median of cash payments}}$				

Within retail purchases of the smallest value (covering most of the transactions), the number of electronic payments continued to rise, and accordingly growth was also seen in this area in 2024. As a consequence, the difference between the medians of electronic and cash payments is continuously decreasing: the median of electronic payment in 2024 was less than double that of the cash payments, with the ratio of the two being 1.9. In terms of value ranges, nearly three-quarters of transactions in shops are still below HUF 5,000. By 2024, the ratio of purchases below HUF 5,000 gradually fell to 73 per cent from the 86 per cent observed in 2019, but the vast majority of transactions still fall into this value category. This includes small daily transactions such as coffee, bakery products, meals, public transport tickets and the like.

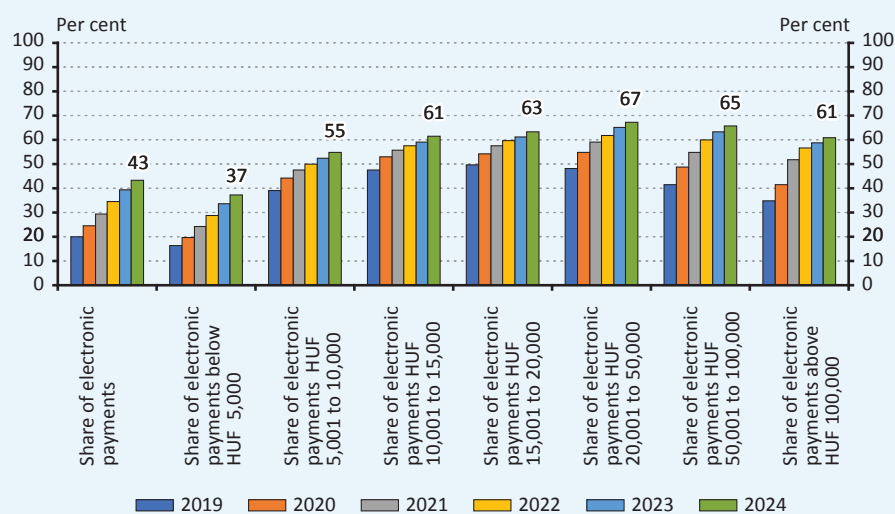
The awareness of both retailers and households must be increased in relation to the possibilities and costs of using electronic payment solutions for small value

transactions, in order to support further popularisation of electronic payments. The share of electronic payments is lowest for these purchases of the smallest amount, whereas for purchases over HUF 5,000, customers opt for electronic solutions with far greater frequency. While the electronic share of shop purchases below HUF 5,000 is 37 per cent, the corresponding figures for the other categories vary between 55 per cent and 67 per cent. The reason for this may be that it is still not clear to a part of customers that electronic payment solutions are available even for the purchases of the smallest value, and that this may be done conveniently and quickly. In addition, these transactions of small value may in certain cases result in disproportional additional costs for the retailers if their card acceptance provider charges a fee proportional to the number of transactions. In order to avoid this, the awareness of retailers must be raised on available more favourable alternatives, i.e. the differences between the pricing of the market players and the availability of the qvik services.

¹² Electronic and cash payments: electronic and cash transactions in the OCR database, mostly effected in physical payment situations.

Chart 33**Share of in-store transactions by number of transactions and its change by value ranges**

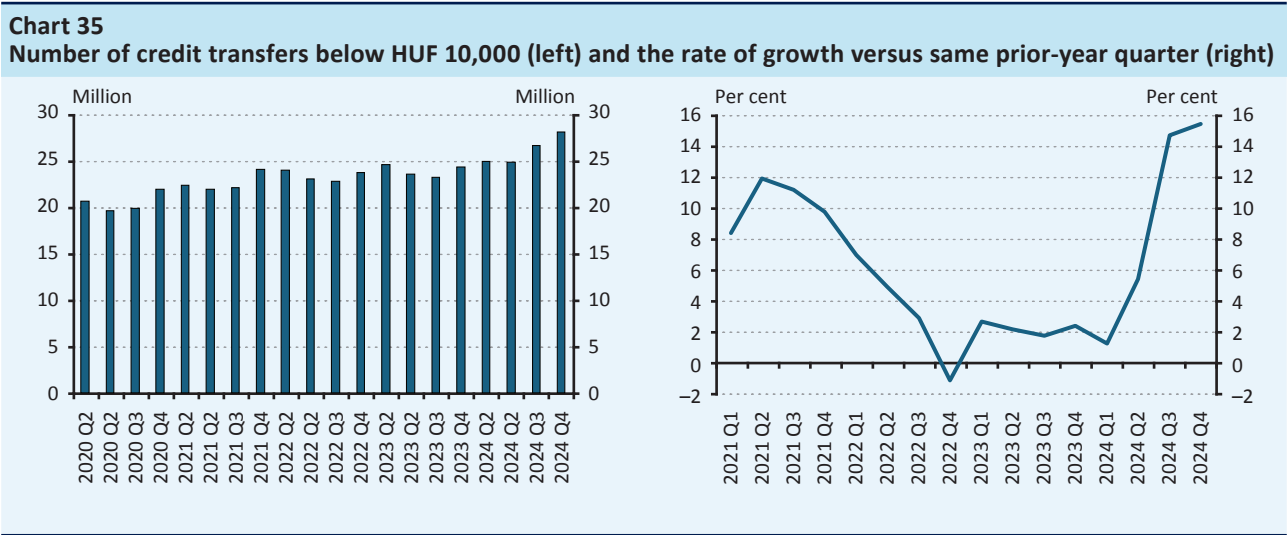
Source: NTCA OCR database, MNB calculation

Chart 34**Ratio of the number of electronic transactions in sectors using online cash registers by value ranges**

Source: NTCA OCR database, MNB calculation

From mid-2024, there is an option to have the deposit of returned bottles refunded to a bank account at the Repont deposit points operated by MOHU, which may greatly increase the number of credit transfers of small values. Part of the approximately 3.5 million returned bottles daily, i.e. 10 to 15 per cent is already requested

to be paid by credit transfer by the customers at present. As a consequence, the number of credit transfers below HUF 10,000 increased significantly in 2024 Q3 and Q4. Based on the data, the monthly number of credit transfers linked to the return of empty bottles amounts to around 1.4 million.



2.1.4 Financial Awareness and Attitudes Towards Electronic Payment Methods on the End-user Side

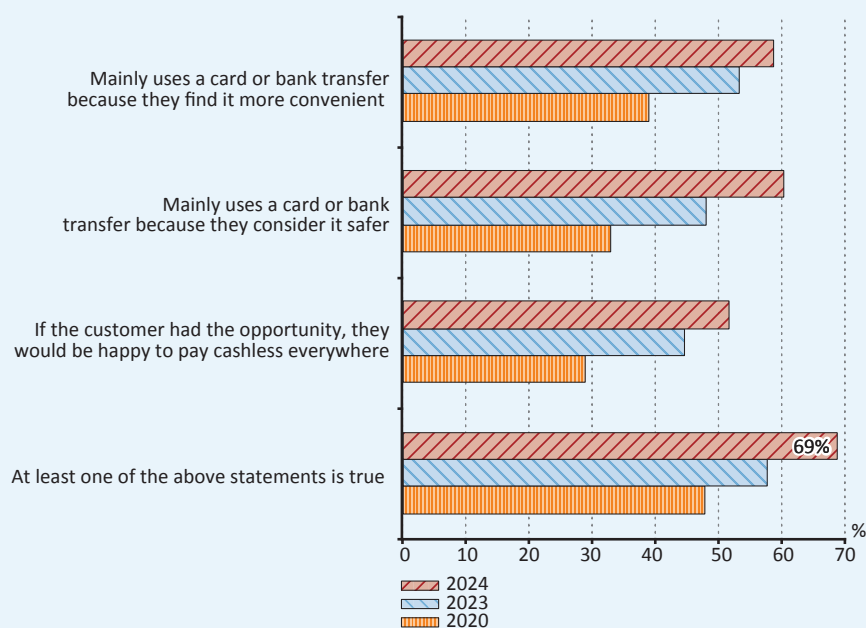
In addition to users of electronic payment solutions and the use of such services, the attitude of household customers towards these services and their level of knowledge

about them must also be examined, as these can strongly influence the use of electronic payment services.

2.1.4.1 Share of People Preferring Electronic Payments

In addition to providing the payment methods preferred by the payer, in particular electronic payment options, it is also necessary to investigate how users engage with electronic payments. The more people prefer electronic options and view them positively, the higher the rate of electronic usage, which is generally considered to be optimal at the societal level. The reasons behind such preferences should also be assessed, in order to identify the additional benefit prompting people to use such payment methods.

Chart 36
Share of people preferring electronic payment methods



Note: For questionnaire-based surveys, while they are representative of the population with regard to the most important dimensions of the examined subject (age, gender, type of settlement by location, educational attainment, region), sample composition, to a degree, impacts the results. In breakdowns not affecting dimensions considered for representativeness, it may cause a deviation of at most a few percentage points compared to results that would be obtained from identical samples. We have considered this factor when comparing and evaluating results from various years.

Indicator value 2020	Indicator value 2023	Indicator value 2024	Change in 2024	Target
48%	58%	69%	+11 percentage points	steady rise
Share of people preferring electronic payments ¹³ = $\frac{\text{Adult population preferring electronic payments}}{\text{Total adult population}}$				

The share of people preferring electronic payment is continuously growing, and one of the reasons for this is the growing significance of security. Almost 70 per cent of the population (would) prefer electronic payment. While previously the share of people who prefer bank cards or electronic credit transfers took three years to increase by 10 percentage points, growth of a similar magnitude was seen during the one year between 2023 and 2024. 59 per cent of the population stated that they were using such solution primarily due to convenience, while 61 per

cent emphasised security. More than half of the total population would prefer to pay cashless everywhere if they had the option. Based on the foregoing, it is important that electronic payment solutions are still considered secure by the majority of the population, thereby driving more frequent usage of such services. Accordingly, the increasing number of frauds in relation to electronic payment transactions had no significant negative effect on electronic payment methods being assessed as safe.

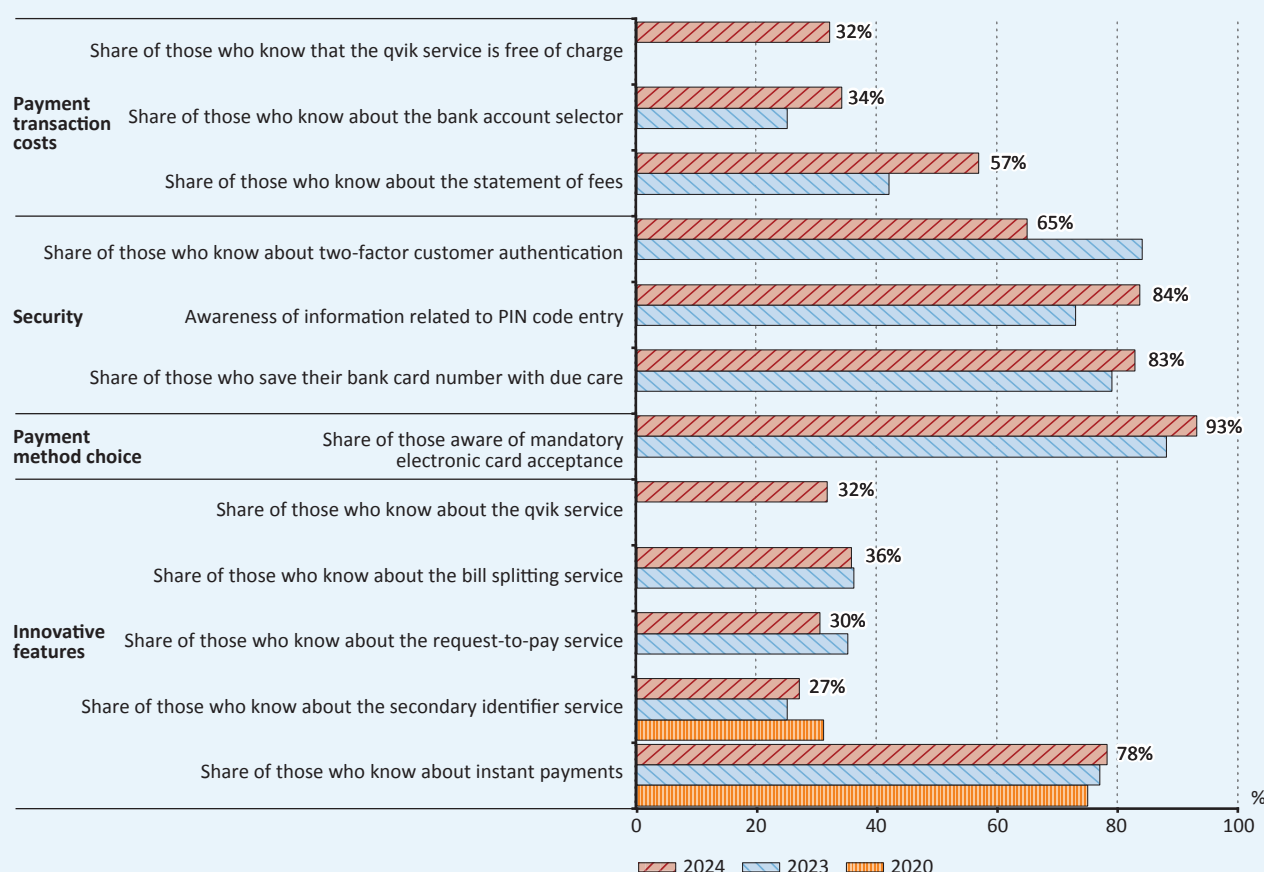
¹³ For people preferring electronic payments, at least one of the following statements is true:

- If the customer had the opportunity, they would be happy to pay cashless everywhere.
- Mainly uses a card or credit transfer because they consider it safer.
- Mainly uses a card or credit transfer because they find it more convenient.

2.1.4.2 Awareness of Electronic Payments

The more people are aware of the opportunities provided by electronic payment services, and the relevant information (e.g. security concerns, the pricing of a given service with their transaction service provider, how to easily look for cheaper options), the more likely it is that the number of users will increase, leading in turn to a significant increase in the share of electronic transactions.

Chart 37
Awareness of electronic payments among the adult population¹⁴



Note: For questionnaire-based surveys, while they are representative of the population with regard to the most important dimensions of the examined subject (age, gender, type of settlement by location, educational attainment, region), sample composition, to a degree, impacts the results. In breakdowns not affecting dimensions considered for representativeness, it may cause a deviation of at most a few percentage points compared to results that would be obtained from identical samples. We have considered this factor when comparing and evaluating results from various years.

¹⁴ Survey questions:

- Instant payment options have been available since 2 March, 2020, allowing credit transfers to be received within 5 seconds any hour of any day. Have you heard of this? (proportion of “yes” answers)
- Have you heard that you can register your phone number, email address or tax number as secondary account identifier, allowing those transferring money to you to initiate the transaction using this information? Please select which statement applies to you. (proportion of people aware of the service)
- Did you know that there is a function that allows you to initiate transactions by sending a request-to-pay to another person from net banking, mobile banking applications, who can approve the request to automatically transfer the amount, at no cost? (proportion of people aware of the request-to-pay service)
- Did you know that there is now a function for splitting bills? This means that if you pay for some joint expense, you can easily send requests-to-pay to the persons concerned, and that they can pay the given amount via a simple approval process. (proportion of people aware of the bill splitting service)
- Have you heard of the qvik payment service? (proportion of people aware of the service)
- Did you know that you can pay electronically (via card, credit transfer) in almost every shop? (proportion of “yes” answers)
- Do you save your bank card information in various retailer mobile applications and websites? (proportion of “never” or “depends on how trustworthy the website is”)
- Do you think that a bank may ask for your PIN code or password via phone or email? (proportion of “no” answers)
- Did you know that when paying online via bank card, the transaction must be approved on one of your own devices, typically via your mobile phone? (proportion of those who know two-step customer authentication)
- Did you know that Hungarian banks are obligated to send an annual summary of expenses to each of their customers? (proportion of those who know the statement of fees)
- Did you know that there are websites where you can search for the bank accounts most appropriate for you based on your personal needs? (proportion of those who know the bank account selector)
- Did you know that QR code-based payment (qvik payment) and credit transfers in response to requests-to-pay are available to everyone free of charge? (proportion of those aware of the services being free)

Indicator value:

- Current value: since for this topic, surveys always target knowledge of current themes and new services, and, accordingly, questions are continuously changed, no aggregate indicator value and target value can be established; progress must be evaluated separately for each theme.
- Target value: values for each theme should continuously grow every year.

Calculation:

Evaluation of answers to various questions concerning current knowledge on electronic payments. The indicator currently covers knowledge of innovative functions, payment method selection, security-related knowledge and questions about payment costs.

The topics covered over the years are continuously expanded to include questions that assess various knowledge points.

One-third of the adult population is aware of the instant payment-based innovative payment services. The share of people who are aware of the instant payment service remains around 80 per cent. The share of people who are aware of the services built on it (e.g. secondary account identification, request-to-pay and bill splitting) was around 27–36 per cent in 2024. Changes to these ratios were minimal compared to previous years, i.e. the share of people aware of the latest developments is relatively stable. This is confirmed by the fact that about one-third of the population is aware of the qvik service (qvik request, payment via QR code, NFC or link), which was introduced half a year ago. On this subject, it is important to note that the request-to-pay function was available in 2024 under the brand name “qvik request”, which may have influenced under which question some responders indicated that they are aware of the service; this may explain the decrease in the share of those aware of the request-to-pay function.

The share of the population aware of solutions enabling the secure use of electronic payment services is continuously rising. Clients using electronic payments safely, that is clients aware that only scammers ask for PIN codes on the phone and who save their bank card information only with due diligence, account for more than 80 per cent of the total adult population. Fewer people are aware of two-factor authentication, and the share of people aware of the solution has decreased over the last year. This is partly due to the growing pervasiveness of wallet providers (Google Pay and Apple Pay) in online purchases; such providers have made the use of this additional security element less conspicuous and more customer-friendly. Online purchases from vendors from outside the EU, where two-factor authentication is not mandatory, are also more frequent. Accordingly, more and more people are engaging in transactions where they are not faced with, or simply do not realise the presence of two-factor authentication.

More and more people are aware that providing electronic payment options has become mandatory even for smaller shops. Providing electronic payment options became mandatory for retailers using online cash registers (OCR) on 1 January 2021. Nevertheless, the share of cash payments for the smallest value transactions remains higher than that of electronic payments. One of the reasons for this is that some customers are not aware that among retailers using OCR, i.e. for almost every shop, providing an electronic payment option (whether via card or credit transfer) is mandatory. Since 2023, the share of people among the adult population who are aware of this fact has increased by 5 percentage points to 93 per cent.

Knowledge of instruments providing information on transaction pricing is continuously growing, but is still at a low level; therefore, it remains very important to increase public awareness of such solutions. The share of people who are aware of statements of fees and the bank account selector has increased by 15 per cent and 9 per cent, respectively, to 57 per cent and 34 per cent. Unfortunately, although banks have been obligated to provide statements of fees including detailed information on fees paid after all transaction services to all retail clients since 2019, only a bit more than one-half of the total adult population is aware of this. Similarly, while the bank account selector can help find the bank account most suitable to one’s payment habits, only one-third of the population is aware of it. Awareness of the bank account selector, and thereby the frequency of its usage may be significantly enhanced by the agreement concluded between the MNB and the Hungarian Banking Association in April, pursuant to which banks will actively inform customers of it and call attention to the fact that bank account selector can help find more favourably priced account packages. One positive factor which may help reduce the transaction expenses of households is that those aware of the qvik service know that credit transfers initiated via QR code or in response to a qvik request are always free of charge to retail customers.

2.1.4.3 Reduction of the Level of Payment Costs for the Population

The MNB's pricing-related objectives set out in its Payments Strategy are to reduce the cost level and cost differences between customers; meaning that

- the standard deviation of the average monthly costs in real terms in each category based on the number of electronic transactions in the current year should not exceed the standard deviation for 2021;
- average costs in real terms in each category based on the number of electronic transactions in the current year should be lower than the median of real costs;
- the median of real costs for the current year should not exceed the median for 2021.

Chart 38

Monthly costs paid by retail customers in connection with payments per category based on the average number of monthly electronic transactions

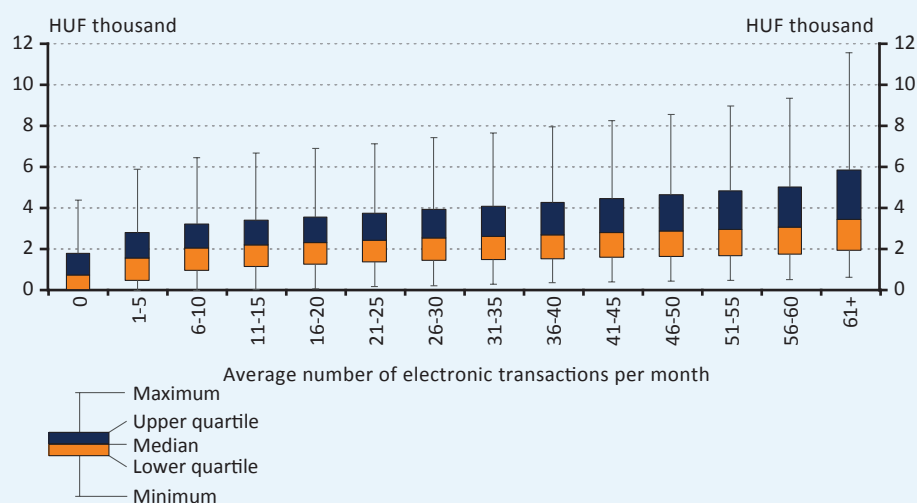


Table 2

Standard deviation, average and median of payment costs incurred by customers in 2024 per category based on the number of monthly electronic transactions

		Average number of electronic transactions per month													
		0	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61+
Value of monthly average costs	standard deviation	1764	2576	2658	2762	3208	3448	3350	3462	5107	3574	3783	4353	4391	5257
	average	1267	2016	2472	2668	2824	2969	3103	3229	3333	3480	3614	3763	3877	4614
	median	766	1599	2061	2231	2362	2486	2594	2683	2762	2860	2931	3020	3094	3477

Table 3

Achievement of MNB's strategic payment pricing objectives per category based on the number of monthly electronic transactions

	Average number of electronic transactions per month													
	0	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61+
Reducing cost differences between customers														
Reducing average cost levels														

Note: MNB's strategic objective in a given category is achieved when the indicator value reaches the target value in both subfields.

Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
The reference year is 2021 and indicator values for subsequent years are calculated in relation to this value	0%	0%	0 percentage point	100%
$\text{Indicator value} = \frac{\text{Number of customer categories based on the number of electronic transactions where the MNB's cost reduction expectations were met}}{\text{Total number of customer categories based on the number of electronic transactions}}$				

In 2024, in most customer groups, differences in payment costs between customers with similar payment habits were reduced, but households' average payment cost levels increased further for all groups. In 2024, nominal fees in higher transaction categories rose to a greater degree, the reason for which is likely inflation-tracking fee adjustment and the more frequent use of electronic payment services. Fee increases impact all customers, but at different rates: cost increases in the lowest transaction categories are mostly the result of increased fixed fees such as account management fees, while cost increases for more active customers are more likely driven by transaction fees. Significant cost differences of thousands of forints per month are still present within all customer groups, despite similar payment practices. One positive development in this area is that magnitude of the difference declined across multiple customer groups compared to the previous year, and for most groups, the cost difference in real terms is lower than in 2021. However, it is important to note that this did not mean a substantial decrease in cost levels. Although in 2024, median values of real costs calculated at 2021 prices were minimally lower than in 2021, the average cost value remained higher than the median value across all customer groups. It follows that banking fee increases did not fall below inflation levels, but rather costs declined for a small group of customers. Three problems can be identified that significantly increase households' payment costs: (1) annual inflation-linked fee increases; (2) the extremely high weight of fees proportional to the number and value of transactions; and (3) the opacity of the payment pricing structure and, as a result, the low awareness of customers. In the coming

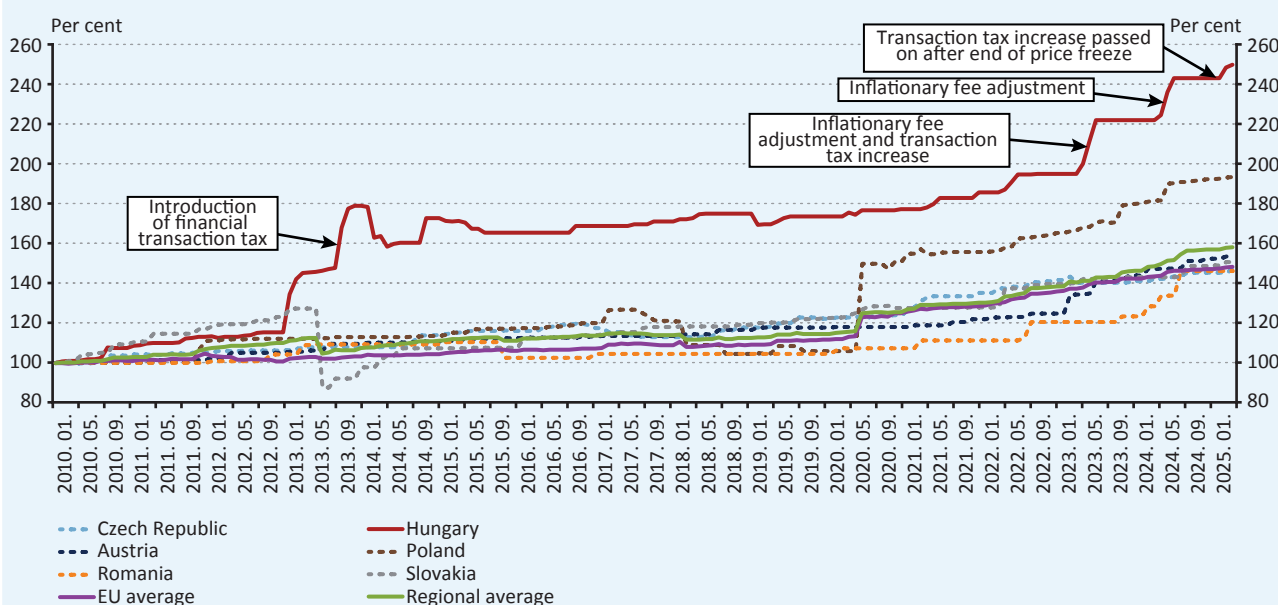
years, customer awareness needs to be improved and the widespread use of free transactions encouraged in order to reduce nominal costs. These include qvik requests, qvik QR code, link or NFC payments, and card purchases.

Bank fees, which were already high, have increased further in recent years, with Hungarian banks passing on the financial transaction tax and employing inflation-linked pricing practices. This has resulted in the fastest growth in household payment costs in the region. According to the MNB's 2018 analysis,¹⁵ household payment fees in Hungary were already among the highest in Europe at the end of the 2010s. It is also important to note that Hungarian households had the highest costs proportionate to their income. Compared to 2010, the prices of financial services increased the most in Hungary (by 150 per cent), which represents a significant disadvantage for the Hungarian household sector, and the situation is similar for other actors in the payments market, i.e. retailers and businesses. The introduction of the financial transaction tax (2013), the increases in the maximum transaction tax (2022, 2025) and the impact of inflation-linked fee increases (2023, 2024) are clearly identifiable factors in the development of the price of household financial services, and as a result, price levels in Hungary are significantly higher than the regional level. Since 2010, price levels have increased by 60 per cent in the region, and the EU price level has risen by 50 per cent. It is important to note that regular inflation-linked fee increases also retard the decline in inflation, as during periods of disinflation, fees for payment services are increased by the rate of inflation from the previous year.

¹⁵ KAJDI László – SIN Gábor – VARGA Lóránt: A hazai lakossági pénzforgalmi szolgáltatások árazása nemzetközi összehasonlításban (Pricing of payment services in the household sector in Hungary, in international comparison) – available in Hungarian only

Chart 39

Change in consumer prices for financial services (2010=100 per cent)



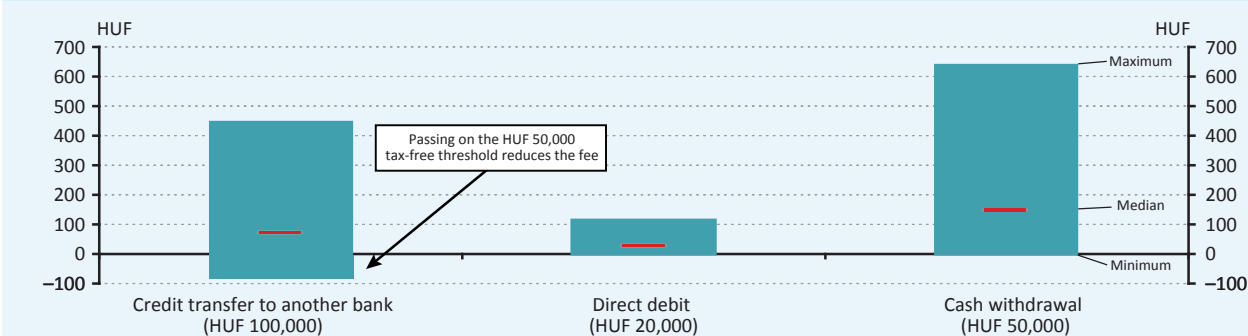
Source: Eurostat, MNB calculations

Effective 1 August 2024, the financial transaction tax rose significantly, and effective 1 October, an additional transaction tax was introduced for transactions involving currency conversion, which Hungarian banks passed on to their customers without exception. Pursuant to the amendments, the financial transaction tax increased by 0.15 percentage point to 0.45 per cent, and its maximum value doubled from HUF 10,000 to HUF 20,000. The additional tax on transactions involving currency conversion is 0.45 per cent, capped at a maximum of HUF 20,000. The fee for cash withdrawals increased from 0.6 per cent to 0.9 per cent. Banks were allowed to raise fees for household services no earlier than the beginning of 2025. At that time, most account packages available to households saw an increase of either HUF 150 or HUF 75 in the fee for a credit

transfer for of HUF 100,000 (HUF 75 if banks applied the fee increase only to sums above HUF 50,000), and an increase of HUF 30 in the fee for a direct debit fee of HUF 20,000. Furthermore, in most account packages, the cost of a cash withdrawal of HUF 50,000, in excess of the free limit, increased by HUF 150. The rise in the tax-free credit transfer limit in parallel with the tax increase would have been beneficial for household customers and could have reduced costs for their small-value transactions, but only a few banks applied this change in some of their account packages. However, the increases at the beginning of the year did not affect customers' account management fees or annual card fees, meaning that banks did not pass on their increased costs resulting from the higher tax on these services.

Chart 40

Price increases for the largest account packages at the beginning of 2025



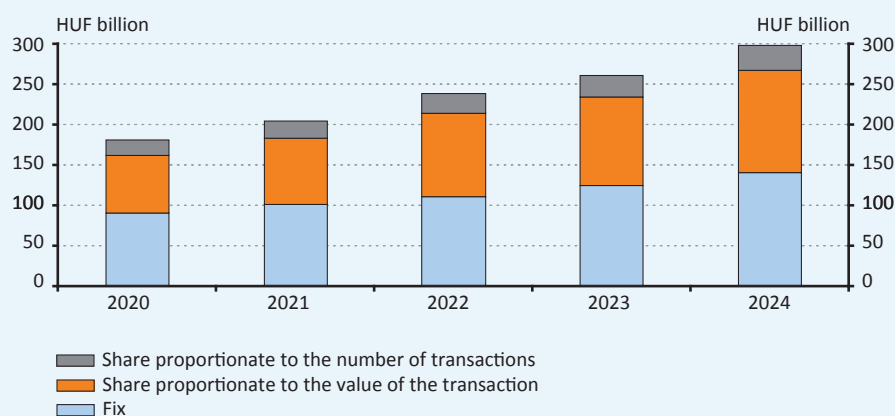
Source: Publicly available bank data, MNB calculations

51 per cent of the payment service providers' revenue from household payments was directly from transaction fees, and due to the more frequent use and higher transaction amounts, customers' costs automatically increase, even without separate payment fee increases.

In 2024, banks' revenues from payment services related to the household and corporate sectors totalled HUF 785 billion, of which 38 per cent, or HUF 298 billion, was paid by households (with HUF 261 billion paid by household customers and HUF 37 billion by sole proprietors), which is 14.5 per cent higher than the previous year's figure. In addition to inflation-linked price increases at the beginning of the year, another reason for the continuous and significant rise in costs is the high proportion of

transaction-based fees, which automatically increase bank revenues as electronic payment transactions expand. For example, due to the increasing number of credit transfers and the steadily rising transaction values as a result of inflation, customers are paying more transaction fees every year. It should be stressed that, due to the above, customers pay for the impact of inflation twice, through bank fee increases and higher value-based costs. This hinders the further spread of electronic payments, as more frequent use results in higher costs for customers. Qvik payment solutions that are free for all customers and based on instant payment (qvik request, qvik QR code, link and NFC) will help households avoid the cost increases seen in previous years.

Chart 41
Household payment costs by main cost categories



2.1.5 Development Level of Payment Transactions on the Supply Side

In many payment situations, merchants offering electronic payment options are able to directly influence the

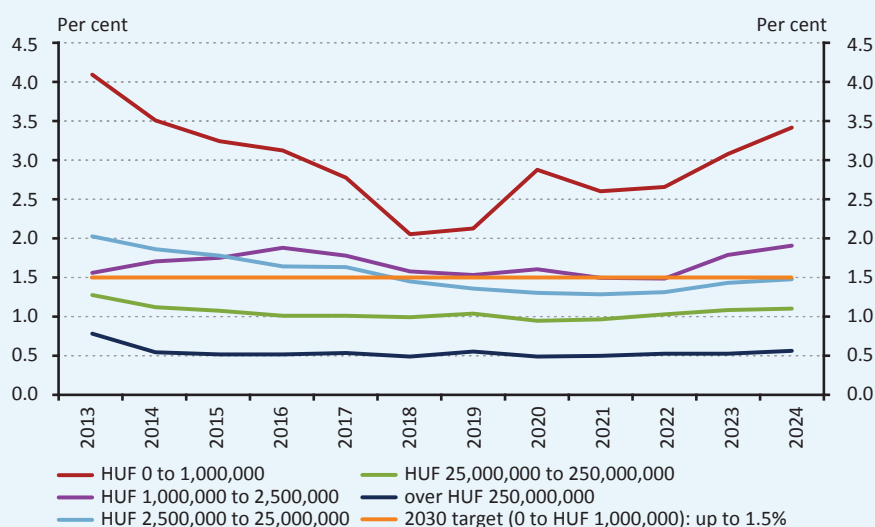
customer's choice of payment method. It is therefore necessary to make merchants interested in the more frequent use of electronic payments, which requires monitoring merchants' costs and the utilisation of merchant infrastructure.

2.1.5.1 Acceptance Costs Paid by the Smallest Merchants as a Share of Turnover

With this indicator, the MNB tracks the costs incurred by merchants in connection with accepting electronic payments. To this end, it focuses on merchants with the lowest turnover, as smaller merchants are still subject to significantly higher acceptance fees in proportion to their turnover. Thus, the reduction in fees charged to these merchants is a clear indication of the reduction in acceptance costs across the whole economy, which encourages the acceptance of electronic payment methods in all sectors and the active offering of such to customers.

Chart 42

Card acceptance costs as a percentage of card payments turnover, by quarterly card payments turnover of merchants



Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
2.6%	3.1%	3.4%	+0.3 percentage point	up to 1.5%
Indicator value ¹⁶ = $\frac{\text{Acceptance costs for the smallest merchants}}{\text{Electronic payment turnover of the smallest merchants}}$				

Due to increases in card acceptance fees, the costs of accepting electronic payments rose further in all retail turnover categories, with the smallest merchants experiencing the largest increases. In 2024, the fees for card acceptance paid by merchants with the lowest turnover accounted for 3.4 per cent of total card turnover, showing an increase of 0.3 percentage point compared to 2023. To a lesser extent, the acceptance fees paid by merchants with higher turnover also continued to rise, with merchants with quarterly card turnover of HUF 2.5 million to HUF 25 million paying an average of 1.5 per cent for acceptance in 2024. However, acceptance costs remain significantly lower for merchants with quarterly turnover exceeding HUF 250 million, with an average cost of 0.6 per cent of turnover in 2024.

The structure of card acceptance fees has not changed significantly, with value-based fees still dominating. 98 per cent of payment service providers' revenues from the above card acceptance fees were proportional to

the number or value of transactions, and only 2 per cent were fixed or periodic fees, with the share of fixed fees decreasing slightly compared to 2023. No significant change can be observed in the breakdown of acceptance revenues by type either: 30.8 per cent of these revenues were interchange fees, 2 per cent were POS terminal-related fees and 67.2 per cent were other fees determined by the service provider, primarily merchant service charges.

The complexity of the pricing structure contributes significantly to the high cost levels for merchants. Many service providers do not make acceptance costs readily available. In some cases, merchants can only obtain an offer after a separate consultation. Complex, difficult-to-understand pricing structures are also common, making it difficult to compare different terms and conditions and offers. These problems hinder cost reduction for smaller merchants in particular, as they are typically small businesses or sole proprietors and are therefore unable to

¹⁶ Smallest merchants: Merchants with quarterly electronic payments between 0 and 1 million forints.

Electronic transactions: Currently, this indicator is calculated from card transactions; in the future, it will be supplemented to include instant payment transactions as well.

devote significant time to analysing and comparing bank offers.

To increase competition among service providers enabling electronic payment acceptance, it is important to raise awareness among merchants. Partly due to the problems mentioned above, many merchants are unaware of the total cost of card acceptance and how much this amount could be reduced by switching to another service provider. Increased awareness could encourage switching between service providers and thus competition between them, which might also significantly reduce the acceptance fees paid by merchants.

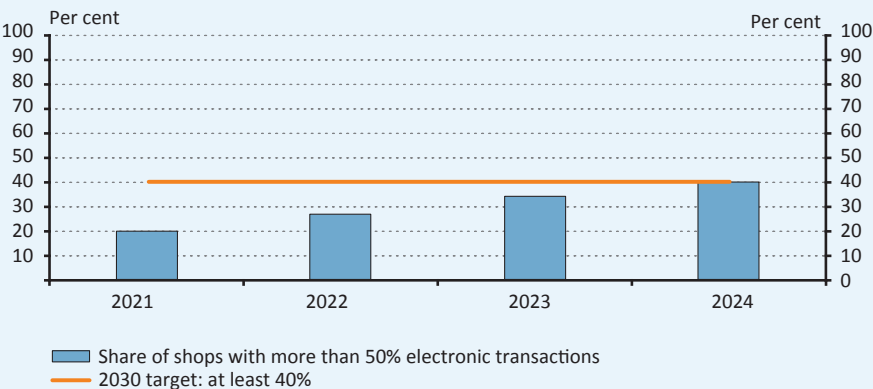
Widespread adoption of qvik services in the coming years could contribute significantly to reducing electronic

payment acceptance costs. The qvik payment service, launched in September 2024 by the MNB and GIRO Zrt., offers merchants a competitive, secure and domestically developed alternative to accept electronic payments in most situations. With this payment method, merchants can reduce their electronic acceptance costs, while qvik payments are mandatorily free of charge for customers, and therefore customer experience can be improved. It is also important that the emergence of this solution creates competition between payment methods, which may have a positive impact on the pricing of acceptance services across all merchant segments. This service is already available at several banks in Hungary. Merchants are therefore advised also to consider these offers in order to reduce their acceptance costs.

2.1.5.2 Electronic Payments at Accepting Merchants

From 1 January 2021, merchants required to use online cash registers must provide electronic payment options. Therefore, rather than focusing on the acceptance rate, it is worth examining the share of electronic transactions per shop, as this allows the utilisation of electronic payment infrastructure to be monitored.

Chart 43
Share of shops with more than 50 per cent electronic transactions



Source: NTCA online cash register database, MNB calculation

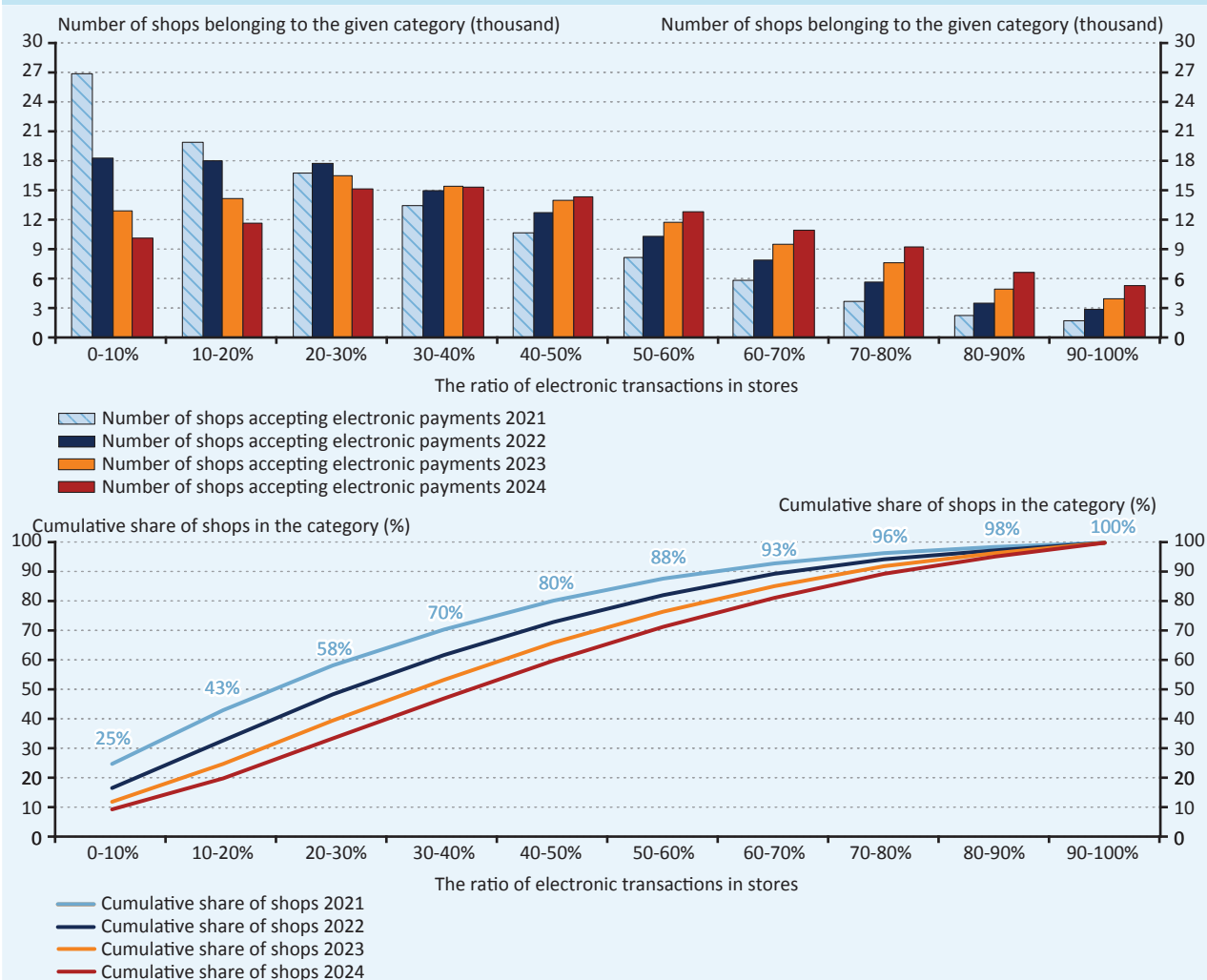
Indicator value 2021	Indicator value 2023	Indicator value 2024	Change in 2024	Target
20%	34%	40%	+6 percentage points	at least 40%
Share of shops with over 50% electronic transactions ¹⁷ = $\frac{\text{Number of shops with over 50% electronic transactions}}{\text{Number of shops}}$				

¹⁷ Shops: retail units per district of taxpayers with the same activity, as recorded in the OCR database, which mainly includes transactions requiring personal presence.

In 2024, this indicator met the MNB's target for 2030, as 40 per cent of shops already had more electronic payments than cash payments. In 2021, only one-fifth of shops had more electronic transactions than cash transactions, and the share of shops where electronic transactions outnumbered cash transactions has risen steadily by 6–7 percentage points per year over the last three years. The number of shops with the lowest share of electronic transactions is

steadily decreasing. In 2021, shops with a share of electronic transactions of 0–10 per cent accounted for one-quarter of all shops. By 2024, this percentage had fallen to 9 per cent. In 47 per cent of shops, a maximum of 40 per cent of transactions are electronic, meaning that at least 60 per cent of purchases are paid for in cash. In previous years, this was true for 70 per cent, 62 per cent and 53 per cent of shops,

Chart 44
Share of electronic payments at domestic retailers accepting electronic payment solutions

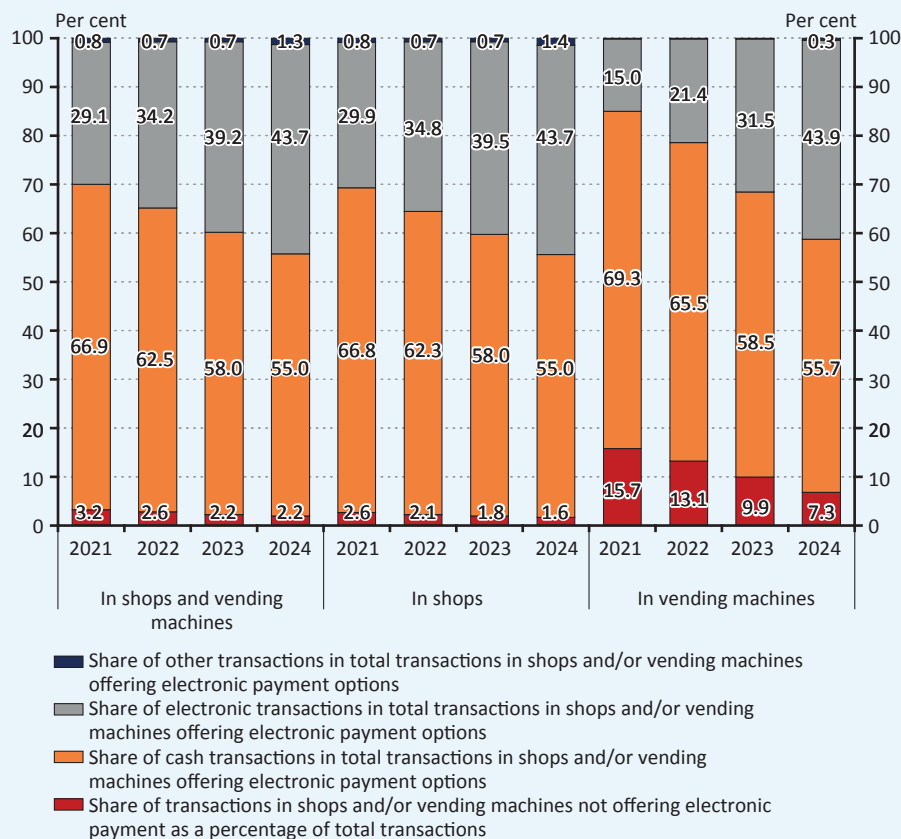


respectively, which also shows the spread of electronic transactions.

There are still shops and vending machines that do not offer electronic payment options, despite the legal requirements, but the share of transactions that cannot be paid for electronically for this reason is minimal. 84 per cent of shops definitely accept electronic payments, representing a 5-percentage point increase compared to 2021. At the remaining 16 per cent of shops where this is not provided, only 2 per cent of in-store purchases were

made. There are merchants who do not have a shop, but only operate vending machines, and thus they are not required to accept electronic payments. At these merchants, the electronic payment acceptance rate is 63 per cent, and 7 per cent of transactions are recorded on merchants' terminals where there is no sign of electronic acceptance. These rates have been steadily improving over the years, with the share of purchases made in shops and vending machines where there is no electronic alternative to cash being minimised, while the share of electronic transactions is also growing steadily. The share

Chart 45
Ratio of payment methods according to the OCR database



of electronic payments increased by 4 percentage points to 44 per cent in shops and by 12 percentage points to 44 per cent at vending machines.

2.2 PAYMENT FRAUD RELATED TO ELECTRONIC PAYMENTS

2.2.1 Fraud Trends¹⁸

To maintain financial stability, it is crucial to preserve trust in the financial system therefore it has high priority to keep fraud at a low level and to ensure the safe functioning of payment services. In line with international trends, the volume of fraudulent payments has also been increased in Hungary in recent years. Criminals also exploit the benefits of digitalisation: consequently, most of the fraudulent payments takes place online, where they can reach a wide audience with a lower risk compared to earlier times. In Hungary, in 2024, more than 226,000 cases of fraud caused total damages of nearly

HUF 42 billion, the largest part of which is borne by the customers. This represents a threefold increase in volume of payment fraud and nearly a tenfold increase in the total value compared to 2020. The increase in the value of fraud linked to credit transfers came to a halt in 2024, unlike payment card fraud, where both the number and value of fraudulent transactions keep on rising; bearing this in mind, further efforts by banks and card companies are needed to curb this trend.

The volume and value of card payment fraud (from the issuer perspective) continued to increase in 2024, and thus further measures are necessary in this area to reduce these cases. The volume of card-based payment fraud by cards issued in Hungary is persistently high, reaching 207,000 in 2024, which marks an annual increase of 13.5 per cent. Last year, the total value of fraud was HUF 10.8 billion, which is exceeding the growth of volume of card-based fraud, indicating an increase of 30.2 per cent compared to the previous year. Nonetheless, it is

¹⁸ In this chapter, for the sake of clarity and consistency with professional terminology, we refer to cases of fraud in which a transaction initiated by a fraudulent party or by a customer as a result of fraudulent activity has been completed as a fraud or successful fraud; and the cases where the transaction failed for any reason are referred to as a unsuccessful fraud in all cases.

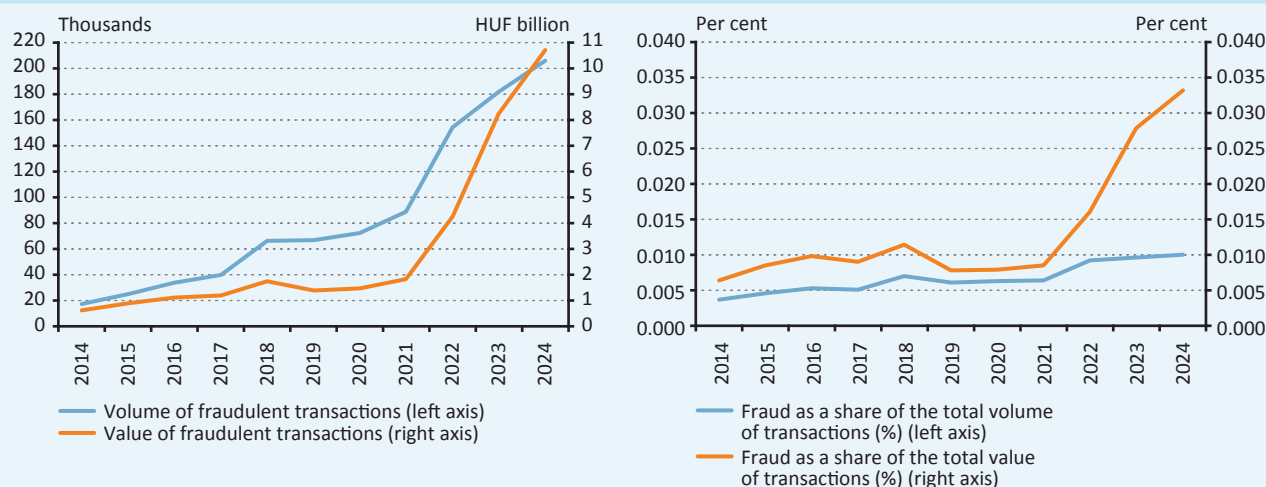
important to emphasise that card payments continue to be secure, because volume of card-based fraud as a share of total card payments is only 0.010 per cent. This ratio has not increased compared to the previous year. There appears to be an increase in the value of card-based fraud as a share of total value of card payments, which rose from 0.028 per cent to 0.033 per cent on a year-on-year basis.

As in the previous year, the majority of card frauds were related to phishing, of which the overwhelming majority

of fraudulent transactions were initiated by the fraudsters by using stolen card data and authentication credentials obtained. Its ratio to total volume of card-based fraud was 57 per cent. Typical forms include online advertising fraud, mostly appearing on social media platforms, fake investment offers promising outstanding yields, phishing messages disguised as courier service notifications, and deceiving sellers advertising on online marketplaces to obtain their data required for the transaction.

Chart 46

The volume and value of card-based fraud (left), and the volume and value of fraud as a share of the volume and value of total card payments (right)

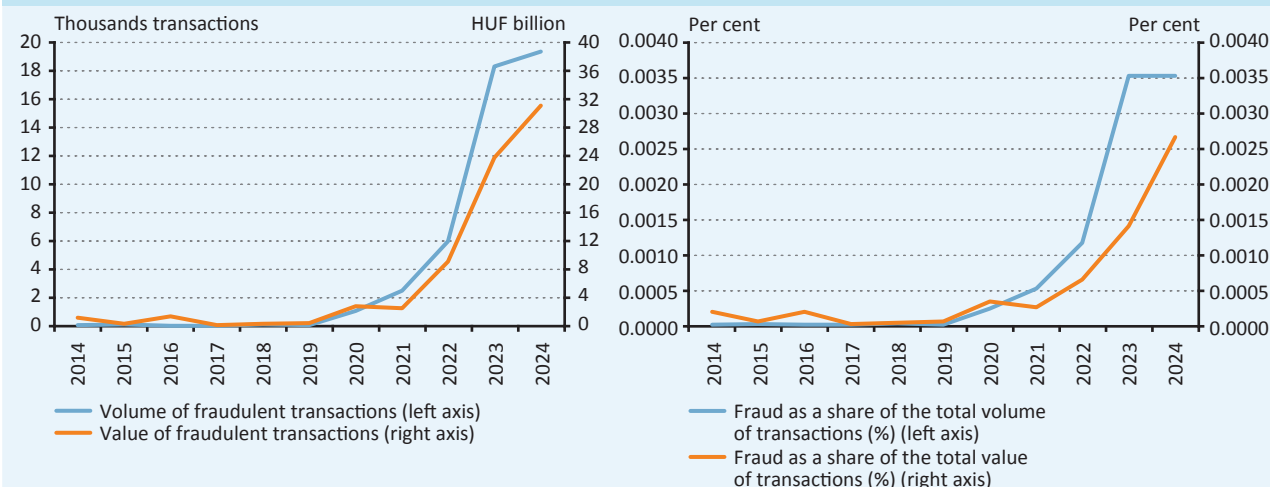


The increase in the volume of fraud related to credit transfers slowed down because the majority of the banks in 2024 began implementing the developments included in the MNB fraud prevention recommendation. By the second half of the year, most credit institutions made it possible for customers to set transaction limits that best suited their habits, which clearly contributed to an 11.9 per cent decrease in the volume of credit transfer fraud of households of which the value per transaction exceeded HUF 1 million per transaction. These transactions account for more than 80 per cent of the total value of losses of households. At the same time, it is obvious that fraudsters have adapted to the changed circumstances, as the volume of fraudulent credit transfers affecting households with value less than HUF 1 million per transaction rose by 1,891 (16.9 per cent) year-on-year, and thus the total value

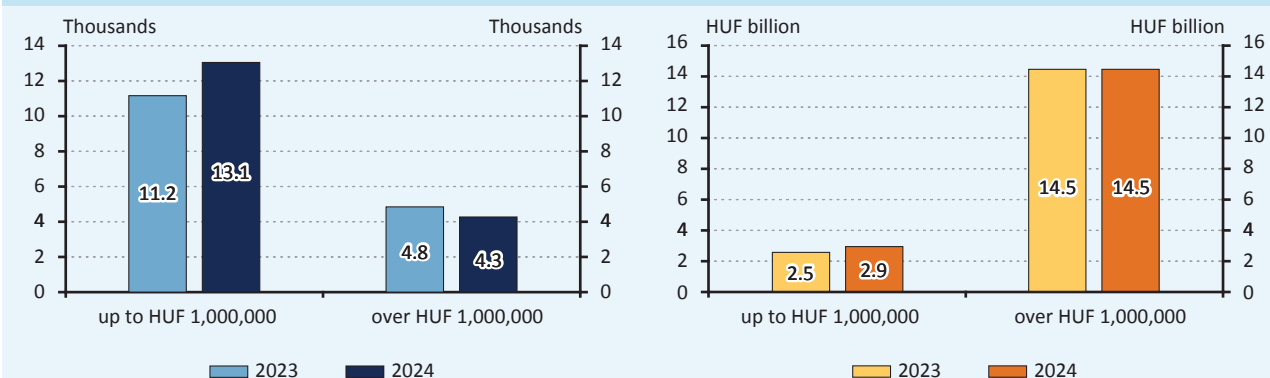
of households' losses can only be reduced if the number of lower-value fraud transactions does not increase at a similar rate. Last year, the total volume of fraudulent credit transfers affecting households was 18,400, with a total value of HUF 20.6 billion, representing a 7.1-per cent increase in volume compared to the previous year; the value was essentially unchanged, exceeding the 2023 figure by only 1.4 per cent. The volume of fraud as a share of total volume of credit transfers did not increase year-on-year (0.0035 per cent), which is directly associated with the fact that banks made significant progress in implementing the actions and developments recommended by the MNB in 2023 (e.g. use of transaction limits, use of real-time fraud detection systems) and intensified their customer education activities.

Chart 47

The volume and value of non-card-based fraud (mainly credit transfers) (left), and their share of the volume and value of total non-card-based payments (right)

**Chart 48**

Volume and value of credit transfer fraud related to households by value range

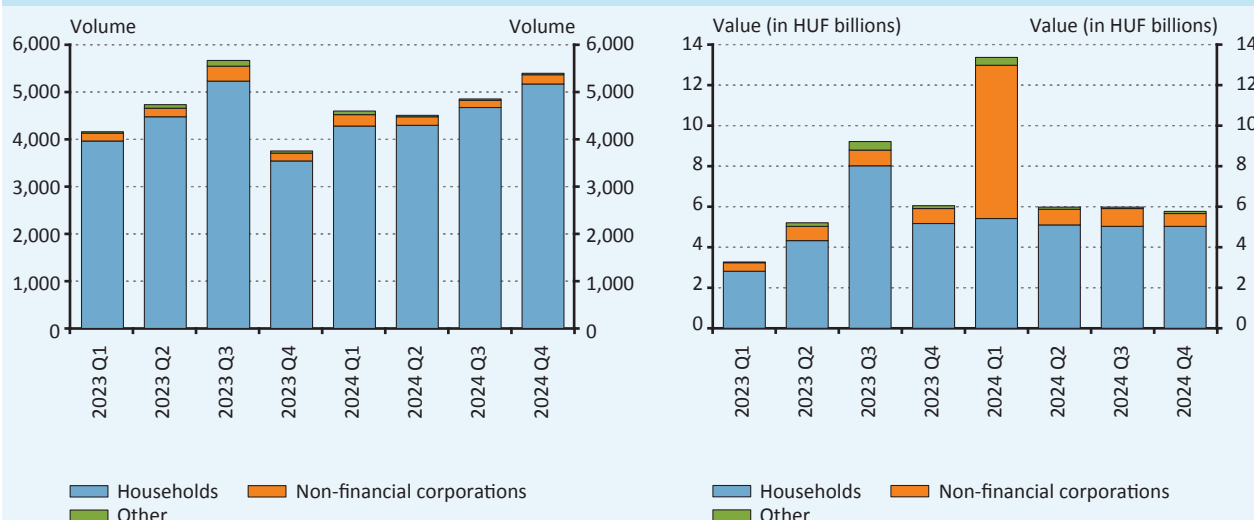


Credit institutions need to further strengthen their customer education activities, as the majority of fraudulent payments – more than 90 per cent – continue to affect households. The volume of fraudulent payments affecting households increased by 1,226 (7.1 per cent) year-on-year, while their value increased only marginally,

by 1.4 per cent (HUF 0.3 billion), compared to previous years. On the corporate side, there was a drop of 11.3 per cent in the volume of fraud compared to the previous year, but a particularly large amount of fraud in the first quarter significantly increased the total value of losses, resulting in a year-on-year increase of HUF 7.4 billion (31.6 per cent).

Chart 49

The volume of non-card-based fraud (mainly credit transfers) (left) and the value of non-card-based fraud by quarter (right), broken down by sectors

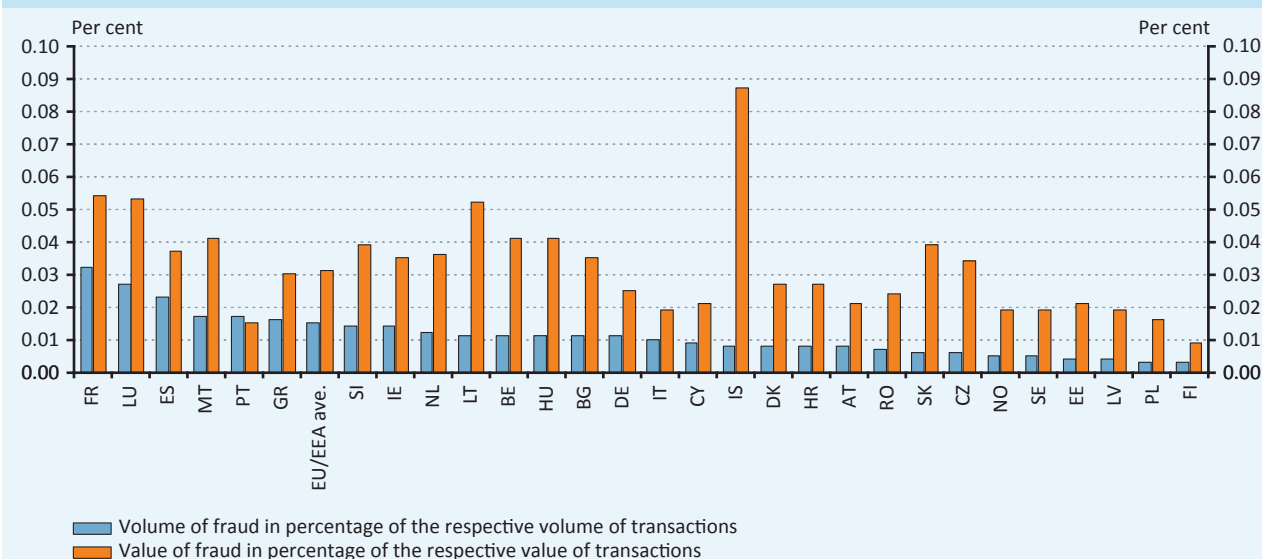


According to the latest report by the ECB and EBA, the volume of card-based fraud as a share of total card payments in Hungary was lower than the EEA average in the first half of 2023,¹⁹ but in case of credit transfers it represented the third highest ratio. It is worth noting that the increase in the number of fraud cases in recent years is not solely a Hungarian phenomenon, but a trend affecting other European countries as well. In case of card payments, it surpassed 2022 levels in nearly one-third of the EEA countries, while in the case of credit transfers it surpassed 2022 levels in approximately half of the EEA

countries. In Hungary, the value of fraud as a share of total card payments rose significantly in the first half of 2023, exceeding the EEA average, and thus, it has the fifth highest ratio among the EEA countries. The volume of fraud as a share of total volume of credit transfers was above the EEA average, reaching the third highest level compared to other countries. These data also confirm that the measures implemented or launched by the banks in 2024 in line with the fraud prevention recommendation of MNB were necessary and may help stop the rise in the level of fraud.

Chart 50

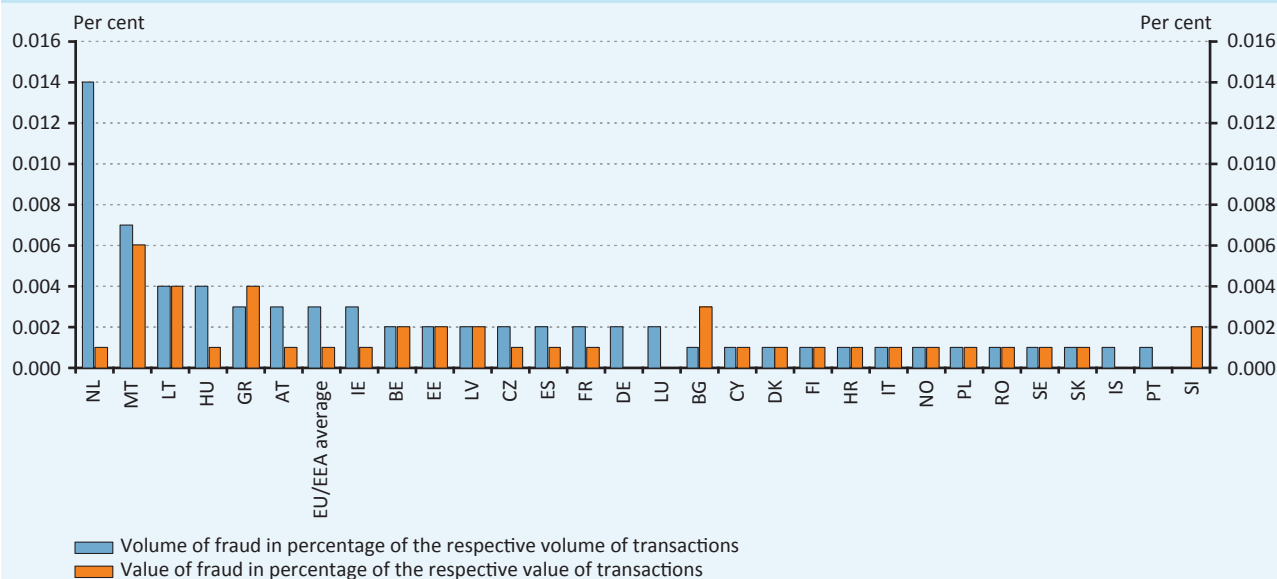
Fraud rates of card payments (2023 H1)



Source: ECB, EBA; the survey was based on sampling, covering a narrower range of banks in each country.

¹⁹ ECB, EBA (2024): 2024 Report on payment fraud. https://www.eba.europa.eu/sites/default/files/2024-08/465e3044-4773-4e9d-8ca8-b1cd031295fc/EBA_ECB%202024%20Report%20on%20Payment%20Fraud.pdf

Chart 51
Fraud rates of credit transfers (2023 H1)

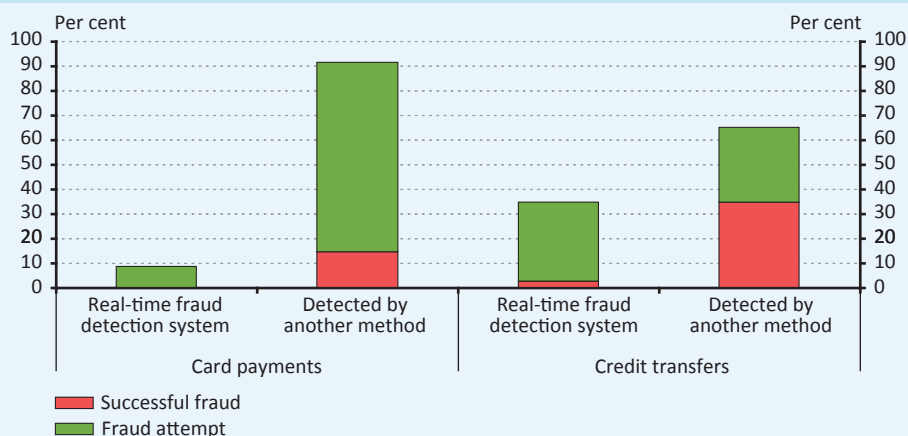


Source: ECB, EBA; the survey was based on sampling, covering a narrower range of banks in each country.

In accordance with the recommendations on fraud prevention issued by the MNB in 2023, a number of credit institutions already have real-time fraud detection systems in place, which contributes significantly to the prevention of fraud cases. The share of transactions checked by these systems within all fraud attempts varied by payment method also in 2024: in the case of credit transfers, 35 per cent of the transactions involved in fraud were detected by a real-time fraud monitoring system, while in the case of card fraud, only 9 per cent were identified by such a system. Currently, not all Hungarian banks have such a mechanism in place, and even among those that do, there are significant differences in the number of fraudulent transactions detected. Real-time fraud detection systems have proved to be effective

against fraud, as they prevented 98 per cent of fraudulent card transactions and 93 per cent of fraud related to credit transfers. At present, however, banks are not yet detecting a sufficient number of fraud attempts in this way, particularly in the case of card transactions. Increasing this ratio in the future could improve the effectiveness and efficiency of the fight against fraud, contributing significantly to lowering the number of fraud cases. Real-time fraud detection systems are already in use at several banks in Hungary, effectively flagging transactions that appear to be fraudulent. It is therefore essential to expand the scope of transactions subject to such controls and to increase the number of transactions checked, as this could lead to a further reduction in the volume of fraudulent payments.

Chart 52
Detected fraud cases and their success rate by detection method and payment method (2024)



The high proportion of losses borne by customers is closely linked to the methods of fraud, which are almost without exception based on deception: the perpetrators use pressure and emotional manipulation to persuade customers to initiate payment, or the criminals themselves initiate the fraudulent payment after having obtained the victims' bank and authorisation information. In 2024, nearly 207,000 fraudulent card payments occurred on the card issuer side, a significant portion of which – 118,000 transactions (57.2 per cent of all fraud cases) – were committed using phishing methods. The total loss amounted to HUF 8.7 billion, of which 72.3 per cent – HUF 6.3 billion – was borne by the cardholders. On the acquirer side, the loss amounted to HUF 129 million, with the largest portion of the damage (59.9 per cent) borne by Hungarian or foreign card issuers, while the share borne by Hungarian merchants increased from 25.9 per cent to 36.2 per cent. For credit transfers, 56.3 per cent of the volume of fraud relates to psychological manipulation, the most common cases being fictitious phone calls made on behalf of banks,

false investment offers promising exceptionally high yields, or romance scams. The total value of the fraud was HUF 26.1 billion, of which HUF 25.7 billion was borne by customers (98.3 per cent of the total damage), which shows that there was no significant change in the distribution of the damage between customers and payment service providers in comparison to the previous year.

Some banks are required to further develop their customer identification (KYC) processes in the short term, as 58 per cent of the volume of domestic interbank fraudulent credit transfers were credited to accounts held at three financial institutions in 2024. This clearly indicates that the customer identification and anti-money laundering solutions of the credit institutions in question are inadequate, and that prompt measures are necessary to improve such. By tightening their customer identification processes and closing the accounts used by criminals, the volume of fraud could be further reduced.

Chart 53

Composition of losses related to card payment fraud on the issuer side (left) and on the acquirer side (right)

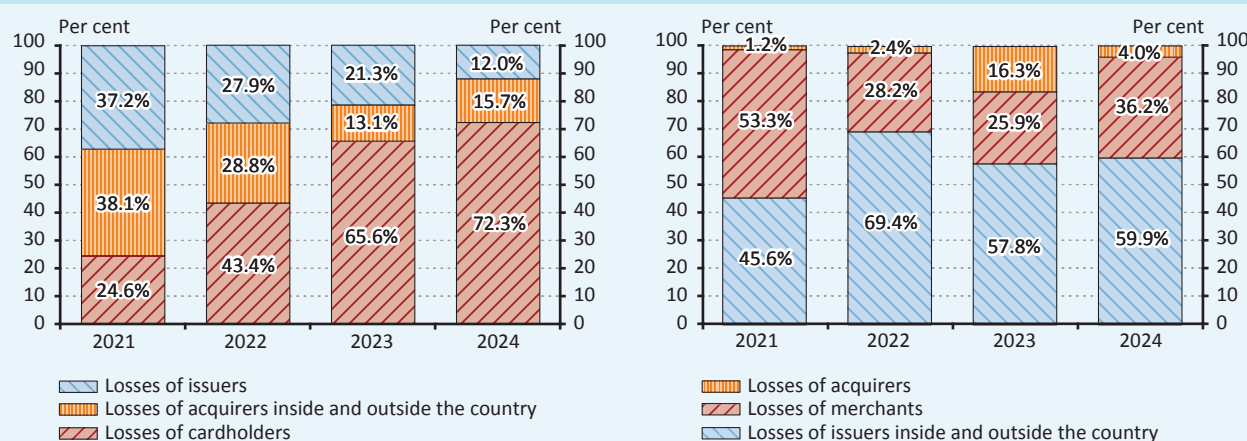
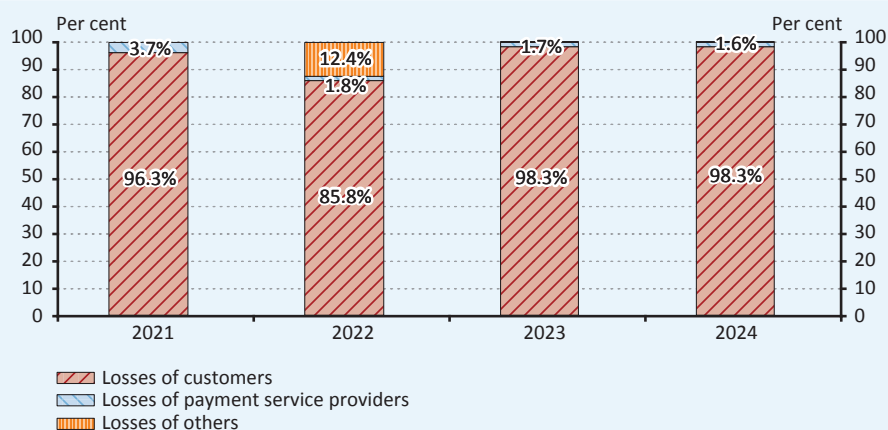


Chart 54

Composition of losses related to non-card-based fraud in electronic payment transactions, broken down by liability bearers



2.2.2 Measures to Prevent Fraud

To reduce fraud in payment transactions, the MNB took action in several areas: consumer education continued, banking developments were encouraged, central developments progressed and regulatory measures were also introduced. The main objective of the CyberShield institutional cooperation is broaden consumer education, in order to enable customers of payment service providers to effectively defend themselves against the constantly evolving criminal methods used in the online space. The MNB recommendation provides clear guidelines for payment service providers to prevent their customers from becoming victims of payment fraud. The Central Fraud Monitoring System (CFMS) supports the fraud monitoring systems of payment service providers by providing additional information that is not available at the individual institutions. Only when implemented together and complementing each other can these three measures provide an effective toolkit for combating payment frauds.

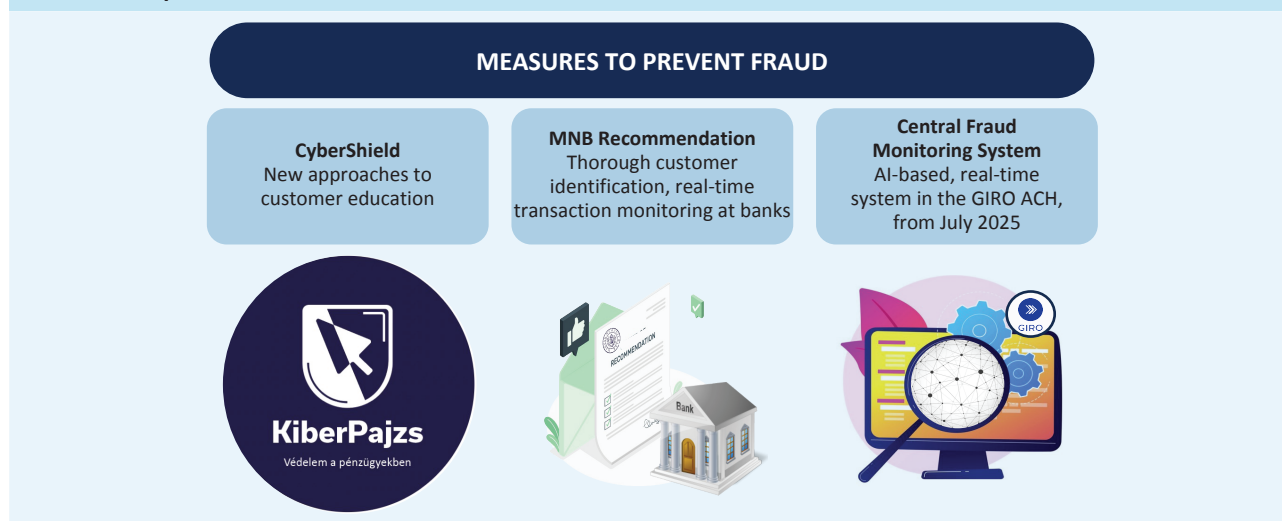
CyberShield Project to Raise Financial Awareness

Established by the MNB and the Hungarian Banking Association, the CyberShield project supports the strengthening of consumer awareness in order to prevent fraud. To ensure effective action against cybercrime, the cooperation, which was originally scheduled to last until the end of 2023, was extended by the parties in 2024 for an additional three years. In December 2024, three new

institutions committed to cybersecurity and financial education – Szerencsejáték Zrt., Mastercard and Visa – joined the cooperation, which now has 13 member institutions working closely together. In addition to awareness-raising content and presentations of current types of fraud, the continuously updated kiberpajzs.hu website also provides guidance for those who have already fallen victim – guiding them through the necessary steps – in order to minimise the extent of the loss through prompt action. Since its launch in 2023, the website has been visited by more than 450,000 users. During visits to the website, the most popular pages were those presenting types of fraud and those providing loss reporting forms for victims.

In addition to communication tasks, the member institutions also collaborate effectively within the framework of CyberShield to develop legal, technological and professional actions. In addition to communication and awareness-raising tools, another important role in the project is played by the creation of a legal environment necessary to curb fraud in the long term (e.g. enabling the rapid exchange of information between institutions and authorities as a result of the legislative changes described above, or developing the necessary legislation to enable telecommunications companies to successfully block fraudulent calls and text messages), the assessment of the possibilities for technological implementation (e.g. the technical implementation of telephone number and text message screening by telecommunications companies).

Chart 55
Measures to prevent fraud



Broad institutional participation is advantageous in effectively carrying out tasks to curb fraud, but the central bank also cooperates closely with other institutional projects outside CyberShield that have been set up to combat financial fraud, as well as with EU-level legislators.

As a result of this institutional collaboration, from 1 August 2024, due to amendments to the Act on the Prevention and Combating of Money Laundering and Terrorist Financing (AML Act), the rapid exchange of information between payment service providers and the competent authorities has also effectively helped to block the amounts of money that have already been defrauded in a timely manner, thereby reducing the losses caused. The legislation creates the possibility, inter alia, for payment service providers to notify the beneficiary's payment service provider if they detect fraud. If further transactions are made in relation to the amount defrauded, the payment service providers of the beneficiaries in the queue will also be notified. Thanks to EU-level regulations, the regulation on instant euro credit transfers, which came into effect on 8 April 2024, will also require Hungarian payment service providers from 2027 to verify, inter alia, the account number and name of the beneficiary specified in credit transfer orders, the effective operation of which against fraud has already been proven by international experience.

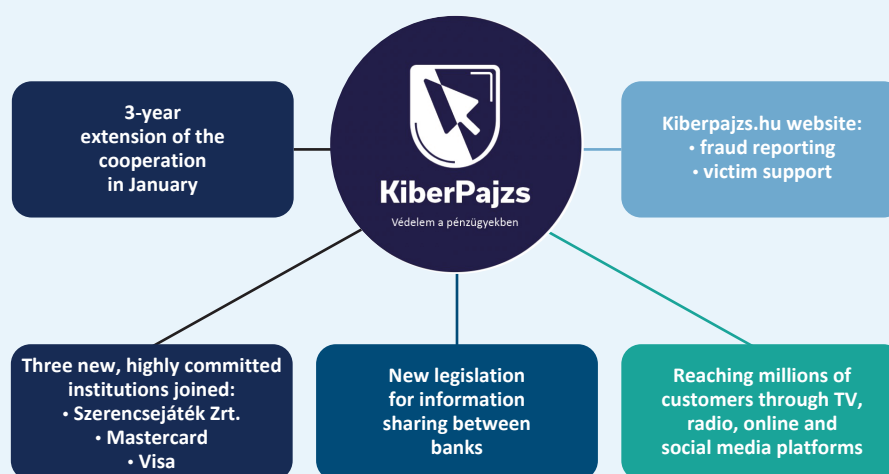
MNB Recommendation on the Prevention, Detection and Management of Abuses Observed Through Payment Services

In 2025, the MNB will inspect if payment service providers are meeting the expectations set out in its anti-fraud

recommendation. After examining successful international methodologies to prevent payment fraud, the central bank presented its expectations for the banking sector in its recommendation focusing on the prevention, detection and management of frauds observed through payment services, which was issued at the end of June 2023. Payment service providers had to meet these requirements in three steps between 1 January 2024 and 1 March 2025. The MNB will pay particular attention to compliance with the requirements for the banking sector stipulated in the recommendation during its inspections in the coming period, as – among other things – the recommendation states that the use of real-time fraud detection systems, the introduction of transaction value limits and the development of lines of defence by payment service providers to prevent external and internal frauds are essential tools for effective protection against payment fraud. In 2024, due to transaction and daily limits introduced for credit transfers, the steady increase in fraud cases did not result in a trend-like rise in volume. This was facilitated by the introduction of digital device monitoring mechanisms to help credit institutions track when customers install the banking app granting access on a new device. In addition, the timely blocking of fraudulent accounts is also an important pillar to further curbing abuse. Based on the recommendation issued by the MNB, from 1 March 2025, payment service providers are required to implement real-time transaction monitoring, which, with the support of the Central Fraud Monitoring System launched on 1 July 2025, is expected to significantly contribute to the more effective prevention of fraud.

Chart 56

Customer education and institutional cooperation to prevent fraud within the framework of CyberShield



In addition to the conditions set out in its recommendation, the MNB also expects the use of strong customer authentication in mobile payment services in order to enhance security. Physical cards can be digitalised through various wallet providers (e.g. Google Pay, Apple Pay), whereby the card details or tokens generated from them are stored on a multifunctional device, typically a mobile phone or even a smartwatch. This makes payment particularly convenient in many situations. However, card-issuing service providers are expected to implement two-factor authentication on the very first occasion a customer registers for their service, as the digitalisation of the payment card is also considered an operation performed via a remote channel, which can lead to payment-related fraud and other abuses. From a customer experience perspective, the one-click card addition feature may be appealing, but to prevent fraud, it is not sufficient to simply log in via a mobile phone and then register all the physical card details in the wallet provider's virtual wallet in one step when digitalising payment cards. The MNB also expects customers to receive advance warning about the digitalisation of their cards, rather than discovering it after the process is complete.

Introduction of the Central Fraud Monitoring System

Implemented in close collaboration between the MNB and GIRO Zrt., the Central Fraud Monitoring System (CFMS) effectively supports payment service providers' fraud prevention systems from 1 July 2025, which, based on the above recommendation, are required to assess the fraud risk of transactions in real-time starting from 1 March 2025. The CFDS also employs artificial intelligence to assess the fraud risk value of transactions in real time, sending the results of its analysis immediately to payment service providers in the form of a numerical risk score. Subsequently, payment service providers may decide, based on the combined results of the risk information obtained from the CFDS and their own internal risk assessment, whether to execute the transactions or suspend them due to suspected fraud. In order for the system to go live smoothly on 1 July 2025, in accordance with the legal requirements, the MNB held continuous consultations with the system's developer and operator and payment service providers. In order for the CFDS to provide accurate information to payment service providers, it is essential that they send accurate feedback of a sufficient quality to the central system regarding transactions that have been confirmed as fraudulent.

Box 1

"Five strikes" to curb financial cyber fraud

In response to the fraud situation that arose in domestic payment transactions, in June 2025 central bank governor Mihály Varga stated that he would take more effective, decisive measures to prevent fraud and announced a series of measures called the "Five strikes". Within this framework, it set out clear expectations for the banking sector, initiated legal amendments and launched a broad public information campaign.

First strike – the MNB launched the Central Fraud Monitoring System (CFMS) and strongly expects banks to actively use the information it provides

The Central Fraud Monitoring System (CFMS), jointly developed by the MNB and GIRO and supported by artificial intelligence (AI), was launched on 1 July 2025 and is capable of identifying fraud patterns in a fraction of a second. Its significance is enhanced by the fact that it covers all domestic credit transfer traffic, thus identifying fraud patterns much more effectively than individual banks based on their own data. The potential benefits of the new solution can only be fully exploited if banking systems are fully prepared to process the information received from the CFMS in real time, and banks are able to integrate this information into their own fraud detection mechanisms. Therefore, the MNB firmly expects all banks to make full use of the information obtained from the CFMS.

Second strike– the MNB firmly expects immediate implementation of MNB recommendations at the bank level

The MNB's recommendation on the prevention of payment service abuses published in 2023 must be implemented fully and immediately by banks, in order to protect bank customers and foster meaningful improvements in the area of fraud. This requires the use of modern, reliable banking systems, which must be kept up to date and continuously developed. The recommendation set clear expectations for banks, to support measures to detect, prevent and deter abuses. By the beginning of 2025, the majority of banks had at least partially met the expectations, but significant differences in preparedness were still evident. Therefore, the MNB firmly expects all banks to comply fully and as soon as possible with the instructions set out in the MNB recommendation.

Third strike – the MNB launches targeted inspections of the effectiveness of banks' abuse prevention measures

On 1 March 2025, all points of the MNB's recommendation on the prevention of abuse came into force, and the MNB will conduct targeted inspections to verify compliance with such. The MNB strictly monitors banks' fraud prevention activities and will continue to do so going forward. The last and most important part of the recommendation, the requirement for real-time screening systems, came into force on 1 March 2025. As the recommendation is now in force in its entirety, the MNB attaches high priority to compliance with the recommendation and will conduct thorough, targeted monitoring of compliance throughout the banking sector in 2025.

Fourth strike – the MNB initiates legislative amendments to prevent fraud more effectively

According to the proposed amendment to the Payment Services Act, banks shall bear the loss in cases where they fail to apply strong customer authentication measures, and the increased liability of banks would be regulated in those cases where a customer is deceived in the name of a bank. The ratio of liability between customers and banks is largely determined by relevant legal provisions and legal interpretation. European payment legislation sets – and many EU Member States apply – the requirement that a bank must bear the full loss in cases where strong customer authentication was not performed before the transaction was initiated. With such an amendment to domestic regulations, banks would also have a strong commercial incentive to implement the most effective fraud prevention systems possible. This can also reduce the amount of loss suffered by customers. In addition, the MNB proposed the earliest possible implementation of two legal provisions to be introduced by the new European payment regulation currently under development, which could also mitigate the losses suffered by customers due to fraud. According to these provisions, under certain circumstances the bank must bear the loss in those cases when its customer has been deceived in the bank's name. The implementation of the verification of the beneficiary's name and account number would also be required from banks in the short term, to help customers ensure that the credit transfer is actually going to the intended recipient.

Fifth strike – the MNB launches a joint customer information campaign with the government

One essential element of fraud prevention is ensuring that customers have the knowledge they need to recognise cyber risks and thus avoid becoming victims of fraud. The MNB and the government are launching a joint customer education campaign to raise public awareness of the risks of fraud and how to prevent them. Due to sophisticated fraud methods, consumer education is necessary and effectively complements the above measures to curb fraud.

2.3 KEY FINDINGS FROM PAYMENT INSPECTIONS

Based on the payment audits conducted in 2024, the operation of the examined payment service providers was generally adequate, but deficiencies were also identified in all procedures without exception. In 2024, six audit procedures were closed, resulting in fines totalling HUF 278 million in two cases, along with orders to take corrective action. Based on the audit plan, regulatory payment audits were initiated at two banks. During the year, the subject matter of the two aforementioned procedures, as well as one additional procedure initiated in 2023, was expanded by examining certain provisions of several essential standards (legislation and MNB recommendations) that have come into force in the meantime. In addition to all of this, based on information obtained in the framework of continuous supervision, another procedure was initiated, and as a result of unexpected events which had an impact on the payment sector, inspections were initiated on two additional subjects. Due to failure to comply with the deadline set out in the MNB's decision from 2023, one institution was again ordered to comply with the requirements and fined HUF 12 million. The inspection reports sent out during the year identified a total of 91 infringements, while a total of 15 findings were set out in management letters and management circulars.

A significant proportion of the problems identified in the 2024 audits were linked to payment framework contracts which were capable of misleading a wide range of customers and negatively influencing their decisions. In the inspection reports sent out during the year under review, 12 per cent of the infringements identified were related to breaching the Payment Services Act.²⁰ These infringements can be classified into four categories, but the majority of infringements concerned the provision of information prior to concluding the framework contract and the form and content requirements of the framework contract, with 5 per cent of all findings falling into these categories.

By law, payment service providers' framework contracts must include specific clauses going beyond the characteristics of the service that address the rules of liability and compensation. The customer must be informed of such prior to the conclusion of the framework contract. If this mandatory content is incomplete or not

sufficiently accurate in accordance with the law (meaning, for example, if the content of the framework contract includes unreasonable limitations of liability or obligation to compensate for damages for the payment service provider), it can negatively impact customers, especially customers which are considered consumers and receive specific legal protection, and micro-enterprises. The MNB therefore considers deviation from the content of the framework contract to be a serious breach of the rules based on the sanctioning methodology, also taking into account that the framework contract with unlawful content typically affects a wide range of customers, and may therefore have a major negative impact on the account holders concerned.

In 2024, several issues arose from the fact that, in certain cases, some institutions failed to credit incoming payments to customers' accounts without delay, potentially causing financial harm to the customers. Infringements related to the MNB Decree²¹ on the execution of payment transactions accounted for 45 per cent of all identified issues. Most of the infringements belonged to one of three categories: (1) receipt and identification of payment orders, rejection of payment transactions between payment service providers; (2) execution of payment orders between payment service providers; and (3) crediting of the amount of the payment transaction. As before, the most common error (20 per cent) was failure to immediately credit incoming payment transaction amounts to the payment accounts. By not making the amounts from incoming payment transactions available to their customers without delay, payment service providers may have caused harm, since customers were only able to access these funds after a delay. Another significant type of error was the delayed or incorrect execution of payment orders between payment service providers (7 per cent). In these cases, the payment service provider did not execute the customer's payment order within the legally prescribed deadline and, depending on the type, failed to deliver the payment order amount to the beneficiary's payment service provider within five seconds, four hours, or one day.

In parallel with technological progress, special attention must continue to be paid to the secure, uninterrupted operation of electronic payment services. A total of 18 per cent of the findings in the inspection reports related to violations of the rules on strong customer authentication

²⁰ Act LXXXV of 2009 on the Provision of Payment Services (in the chart: Payment Services Act)

²¹ MNB Decree 35/2017 (XII.14.) on the processing of payment transactions (in the chart: MNB Decree)

and secure communication (SCA regulation²²). The SCA regulation sets out rules and technical requirements for strong customer authentication, as well as for common, secure open communication standards, which enable a significant reduction of fraud and an increase in security when using electronic payment instruments. In this area, the infringements were highly varied: the 16 findings involved ten different types, and thus no typical error could be identified this year. Compliance with the provisions of the regulation is particularly warranted given that, as a result of technological progress, fraudsters are increasingly targeting the digital space and in parallel electronic payment services, and it is therefore essential that payment service providers employ transaction monitoring mechanisms capable of identifying, preventing and, where possible, stopping attempted fraud in connection with the provision of payment services.

Deficiencies concerning statements of fees associated with consumer accounts made up 18 per cent of the regulatory breaches in 2024, indicating that a substantial number of customers were affected by insufficient information on payment service costs. The purpose of the related regulation is to ensure that the statements on the fees associated with individual payment accounts, which are provided to customers who qualify as consumers, are comparable and uniformly structured. The most common error was that the statements of fees provided to consumers were inadequate because they were not comprehensive, lacked the appropriate level of detail, or did not include important supplementary information.

Concurrent with the launch of qvık payments, the MNB examined compliance with the legal regulations concerning qvık payments at 14 credit institutions. Due to the changes in instant payments and the launch of qvık payments, the MNB reviewed the application of the recommendation on instant transfer orders initiated through the Unified Data Entry Solution, requests-to-pay, the customer-friendly design of cashless payment instruments available on multifunctional devices and secondary account identifiers (hereinafter: EAM recommendation²³), and also checked the processing rules set out in the MNB regulation. The MNB communicated the results of the inspection, along with its expectations, to the market participants in a seven-point letter addressed to management. Overall, these inspections help ensure

that all market participants develop new services in compliance with the legislation and the expectations of the MNB, delivering the highest possible level of customer experience, thereby facilitating the widespread adoption of qvık payments.

To support digitalisation developments and maintain secure payment transactions, the MNB has extended its payment supervision activities to new areas, including the previously mentioned qvık services and fraud prevention processes. In parallel with the acceleration of digitalisation, new opportunities have emerged for financial fraud, and the MNB is actively engaged in combating such abuses to ensure the maintenance of a secure, stable financial infrastructure. In 2024 Q4, the MNB began supervision of the recommendation²⁴ on fraud prevention. Supervision of this recommendation will continue in 2025, with a particular focus on one of its key sections (*XII. On Expectations for Fraud-Related Transaction Monitoring Mechanisms*), which entered into force on 1 March 2025. Furthermore, as significant changes have taken place in the field of instant payments with the introduction of qvık services, the MNB is also continuing supervision of the EAM recommendation. The MNB expects all relevant stakeholders to demonstrate strong commitment both to fraud prevention and to the secure and efficient execution of qvık payments.

In order to foster competition in the payment services market and support the expansion of open banking, the MNB held several meetings in 2024 with third-party providers and banks. Drawing on the experience gained, it then stipulated additional measures. Third-party providers enable customers to initiate transactions or access transaction data from their accounts through service providers independent of their account-holding bank. The meetings organised with market participants provided third-party providers (TPPs) with an opportunity to discuss the issues that affect them. Drawing on these insights and the experience obtained from payment transaction inspections, the MNB assessed potential measures to facilitate the advancement of open banking. Taking into account efficiency and possible legal and technical options, a 12-point strategy was developed that places special emphasis on the priority handling of notifications from TPPs and on facilitating dialogue between TPPs and payment service providers.

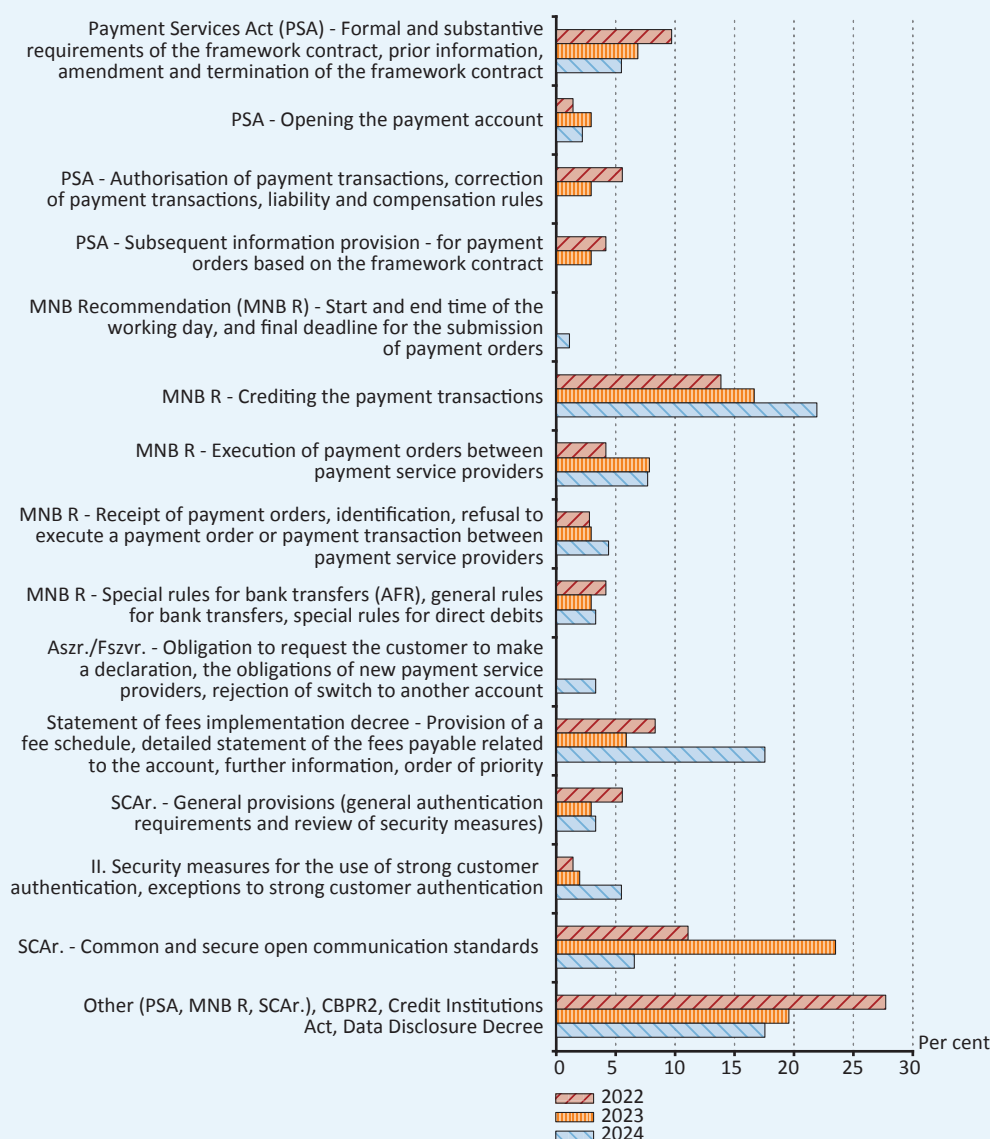
²² Commission Delegated Regulation (EU) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication (in the chart: SCAR.)

²³ Recommendation No 8/2024 (VII.15.) of the Magyar Nemzeti Bank

²⁴ Recommendation No 5/2023 (VI.23.) of the Magyar Nemzeti Bank on the prevention, detection and management of frauds observed through payment services

Chart 57

Distribution of main types of errors identified in payment inspections (2022–2024)



2.4 CURRENT TOPICS IN PAYMENTS

2.4.1 Action Plan for the Development of Domestic Payments Market

In order to achieve the payment strategy goals, the MNB developed an action plan for 2025–2026 containing specific steps in the previously identified areas for development. The Action Plan outlines the main development directions and related specific measures necessary to achieve the objectives for 2025 and 2026, and also assigns coordinators for each sub-section. The Payments 2030 electronic payment strategy and the related Action Plan identified the main areas for development as strengthening competition, improving financial awareness, maintaining security, supporting innovation and promoting

financial inclusion. Additionally, further measures are needed to increase the share of electronic transactions in retail and bill payments. The implementation of the Action Plan will focus on developing specific measures related to each area, ensuring an appropriate pace of growth in the share of electronic transactions over the coming years.

To achieve the outlined goals, the MNB has begun elaborating the necessary measures in cooperation and consultation with domestic payment market players. This supports the coordinated, step-by-step implementation of measures aimed at developing electronic payment transactions across different sectors and payment contexts. For most of the measures, the MNB acts as the main coordinator; however, for several developments, other stakeholders, such as the Hungarian Banking Association,

the Electronic Payment Service Providers Association, the Association of Hungarian Companies, the Hungarian State Treasury and the Hungarian Energy and Public Utility Regulatory Authority, have taken on the responsibility of developing and coordinating specific actions within their respective areas.

The coordination of the Action Plan's implementation and the sharing of related information take place within the Payments Consultation Body (PKT), which operates under the authority of the MNB. In 2024, the forum was convened twice. PKT participants represent all stakeholders of the domestic electronic payment market, including, among others, industry representative organisations, card companies and government entities. Additionally, the MNB holds regular bilateral consultations with the designated coordinators or partners supporting achievement of the defined goals to discuss potential collaboration.

The measures outlined in the Action Plan focus specifically on promoting the use of electronic payments in the period up to the end of 2026. Within this framework, a key objective of the measures is to strengthen financial awareness among households and the corporate sector, to introduce qvik payment solutions to economic actors and to build trust in the new service. Additionally, it is important to introduce qvik payment acceptance solutions at as many locations as possible and ensure their widespread use across broad segments of the population. This can simultaneously increase competition on the acceptance side, leading to lower costs, while providing retail customers with a highly secure and convenient electronic payment solution. Enhancing competition is important as a general objective, and it can be supported by the advancement of domestic open banking services and the entry of new payment service providers into the market. Ultimately, all stakeholders in the domestic payment market have a strong interest in continuing the fraud prevention efforts already underway, such as the creation of active educational content via diverse online and offline channels, and in ensuring continued effective cooperation in the CyberShield project.

2.4.2 Launch of the Qvik Service and Expected Near-term Developments

In 2024, by launching qvik payments as a basic service accessible to all Hungarian customers, the MNB opened a new chapter in the development of services based on the Instant Payment System. By regulation, the MNB requires payment service providers to offer their retail customers the ability to receive requests-to-pay from 1 April 2024, and to support various standardised data input methods (e.g. QR codes, deeplinks, and NFC) from 1 September 2024 in mobile banking apps.

In order for banks to provide qvik payment services in a customer-friendly manner, the MNB formulated its expectations for the domestic banking sector in a recommendation. In the recommendations published in July 2024 and April 2025, the MNB set out numerous expectations and best practices that simultaneously achieve multiple objectives. On the one hand, the regulations significantly simplify the use of qvik payment services, enhancing the customer experience for domestic consumers, while on the other hand, they promote the adoption of qvik payment solutions. The recommendation sets out practical requirements regarding user processes that ensure a consistent customer experience regardless of the payment service provider. Compliance with the recommendation's requirements must be met in multiple phases, taking into account the development time needed by banks, with a final deadline of 1 June 2025. Simultaneously with the recommendation, the MNB also published a technical guide to enable the consistent handling of technical issues arising during the development process. The technical guide includes, among other things, descriptions of the requirements and processes related to the handling of links and the bank and payment account selection functions in mobile banking apps.

One of the MNB's main short-term goals for qvik payments is to make the new brand and the content elements of the service widely known both among the public and businesses. As part of its communication strategy and to support customer education, the MNB issued an expanded version of the Identity Manual in August 2024, providing guidelines for payment service providers and their business partners (e.g. merchants) on the correct use of brand elements. As a result of extensive consultations, the Identity Manual was expanded with a new chapter in April 2025, supporting the developments on the payment service providers' side by presenting the visual elements to be displayed in the application and their proper placement. To support brand building, the MNB has developed a marketing communication strategy that will inform both market participants and retail consumers about the opportunities offered by qvik payments, their operational features, and the benefits associated with the service's introduction. The communication campaign runs across multiple channels, with educational advertisements and articles about qvik appearing both in traditional media and online platforms. Another key short- and medium-term objective is to expand the qvik acceptance network both online and in physical locations, supported by the MNB through bilateral discussions, expert consultations and communication campaigns.

After qvik's launch in September, qvik payment solutions are now available at more than 25,000 merchants,

Chart 58
Logos of qvik services



primarily online, although qvik payment is also accepted at some physical stores. Since qvik's launch, the number of qvik transactions has grown dynamically. In 2024, over 1 million transactions based on qvik requests were completed, amounting to approximately HUF 70 billion; furthermore, between 1 September 2024 and 30 April 2025, more than 410,000 successful qvik QR code and qvik link transactions were recorded, with a total value close to HUF 9.8 billion. In the coming months, the goal is to achieve dynamic growth in the use of qvik services, driven by the continually expanding acceptance network and mobile banking applications providing a seamless and convenient customer experience.

2.4.3 Further Steps to Reduce Household Payment Transaction Costs

A significant number of clients could achieve substantial cost savings by choosing an account package more aligned with their payment habits or by using only the services necessary for them. To achieve this, additional targeted measures may be necessary to improve client information and education. In the future, customer information and education will play a key role in reducing costs, and the annual statement of fees sent to each customer plays a significant part in this regard. Currently, the fee structure of banking payment services is difficult to understand for customers, and pricing information is not easily accessible. In addition, for the majority of the banks, the statement of fees informing about costs borne by customers is hard to find at online banks, for some banks it is not accessible in the mobile bank, and certain banks fail to notify their customers at the beginning of the year that this has become available for them. It is imperative that banks make their statement of fees easily accessible, also from mobile banks, and that they notify their customers of its availability, thus providing a degree of transparency for their customers in terms of the services they use and the charges for such services

in various account packages. Based on this, they can find a more affordable account package, often without the need to change banks, as banks currently offer low-cost account packages as well, and several customers could replace some services with more affordable ones within their current account package. For example, several customers may be satisfied with free mobile phone notifications instead of costly SMS notifications, or could substitute premium payment card with a cheaper payment card that may be used for in-store and online purchases as well as cash withdrawals in the same way. The MNB's bank account selector can help account holders in identifying the account package that is best aligned with their payment habits.

To address the issues identified in the pricing of household payment transactions and to reduce payment transaction costs in the household sector, the Hungarian Banking Association entered into agreements with the MNB and the Ministry of National Economy in April 2025.

The agreement with the MNB, which covers five main aspects, addresses important issues: it improves customer awareness, simplifies the process of switching to another account package and reduces payment transaction costs for customers switching to a basic account. The five key points in the agreement between the MNB and the Banking Association are:

- Making basic accounts free of charge until inflation falls below the upper limit of the central bank's tolerance band (4 per cent) for three consecutive months.
- Informing customers in the statement of fees, if a more favorable account package is available for them.
- Launching a customer education campaign regarding the annual costs of account packages.
- Use of the central bank's account selector by the banks in customer education.
- Introduction of online account closure.

In addition, based on the agreement with the Ministry of National Economy, this year and in the upcoming year the banks will refrain from increasing fees on the grounds of inflation and rising operating costs. The banks undertook to refrain from raising household payment transaction fees until mid-2026. It is important to note, however, that they are not required to roll back the pass-through of the transaction tax increased in August 2024 introduced at the beginning of this year.

The payment pricing issues that have been identified can only be permanently addressed through increased

competition, which requires customer engagement. The agreements between the Banking Association and MNB as well as the Ministry of National Economy, provide an efficient short-term solution to the issues, but the structural pricing problems must also be addressed by mid-2026 in order to prevent these issues from resurfacing, as banks will again be permitted to increase payment transaction fees from the middle of 2026. For this purpose, it may be justified to transform the banks' pricing practice, to make pricing more transparent, to greatly increase the intensity of customer information, and to further simplify the process of switching between account packages and between banks. Heightened competition will drive price reduction and encourage the improvement of services as well, increasing the competitiveness of the banks. This is particularly important, as the entry of foreign players into the domestic payments market will intensify competition, and domestic banks will be forced to adapt to new market conditions by transforming their pricing and service development practices.

A good example for the price-reducing effect of competition intensified due to increased customer awareness is the reduction of currency conversion costs in the past years. Cheap currency conversion was the first service international fintech players provided in the domestic market. Since international players had a significant price advantage over domestic banks in this regard, a wide range of customers began to use this service in a short period of time. In response, several banks introduced currency exchange near mid-market rates in recent years, potentially leading to a cost reduction even for the financially less aware customers and for those who do not use fintech services.

2.4.4 Problems Related to the Competitiveness of Banks

The domestic banking sector is at a major competitive disadvantage compared to the neighbouring countries and the fintech companies entering the payment services market. As shown in Chapter 2.1.4.3, household payment transaction costs increased the most in the Hungarian payment services segment in the region. Furthermore, companies are faced with high costs, as can be seen from the merchants' costs related to payment card acceptance shown in Chapter 2.1.5.1. Such steep banking costs reduce the competitiveness of banks as well as of other economic players. Digital services provided in the domestic sector also lag behind. Although some banks have improved substantially in recent years, the customer experience offered by the mobile banking and online banking services of the Hungarian banking sector often falls behind when compared to foreign service providers. This is equally

true for the scope and operation of available services as well as their ease of use. In conjunction with the ongoing expansion of foreign service providers discussed in Chapter 2.1.1.2, this is a major disadvantage for domestic service providers.

The concentrated structure of the domestic payment services market plays a significant role in the high level of payment transaction costs and the low intensity of services development. As shown by the HHI indicator presented in Chapter 2.1.1.2, the concentration of the domestic payment services market is high and increasing. The high concentration significantly drives up customers' banking costs because none of the market players is interested in launching price competition because of the market structure. Minor players do not possess the revenue or deposit base required for this, while larger players can generate significant additional revenue as a result of this. The low intensity of market competition further hinders service development, as none of the banks have an interest in deploying modern services in the short term, because this would only attract a limited number of customers.

Several market practices hinder account switching, and because of this the intensification of competition. As Chapter 2.1.4.3. shows, significant cost differences continue to exist for banking customers with identical transaction habits. This indicates that increasing the number of account switches could also lead to substantially lower average banking costs and more intensive competition in the segment. However, switching between banks is burdensome, as account closure and account switching processes are complicated and in many cases can only be completed using paper forms or in bank branches, which is a further hindrance to the customers. Competition among banks is further hindered by the banks' pricing practices, as the banks' lists of conditions are confusing for the average customer, and the actual costs are difficult to determine based on these lists.

Domestic banking developments deployed in response to the increased penetration of foreign players also indicate a foreseeable intensification of competition. The domestic expansion of foreign service providers poses a major new competitive challenge for the domestic banking sector. As a result, several banks have responded by developing their own services, which is a clear indication of the intensification of market competition. In a short while, several banks have introduced:

- A favourable foreign exchange rate that can compete with the rates of foreign service providers: When entering the market, one of the greatest competitive advantages of

foreign service providers was their favourable foreign exchange pricing. Because of the measures taken by banks, however, this service is no longer significantly cheaper than those offered by the other players in the market.

- An account bonus: Following the example of foreign players, several banks now offer a one-time account opening bonus in order to attract customers and deposits.
- A user-friendly mobile bank: Since the appearance of foreign players, several domestic banks have deployed major improvements to their mobile banking applications, significantly enhancing the scope of available services as well as customer experience.
- A virtual payment card: It was also foreign market players who introduced widely accessible virtual payment cards to the domestic market that could be generated in the application with a tap, allowing these cards to be used on a single website, thus enhancing payment security. Today, this service is offered by several Hungarian banks as well.
- Account opening online or in a mobile application: Similarly to foreign service providers, the majority of Hungarian banks now also offer the possibility of opening an account online or in a mobile application, thus avoiding the need for a personal visit to the bank.

2.4.5 Developments Related to the Regulation of Payment Services

The new legislation of the European Union on payment services will further unify the operation of the European electronic payment market, and strengthen consumer protection and competition between market players. In June 2023, the European Commission published a regulatory package including a Proposal for Regulation on payment services in the internal market (PSR) and a Proposal for a Directive on payment services and electronic money services in the internal market (PSD3). The significance of the proposed updates, which are predicted to mark a new milestone in the integration of financial markets, is indicated by the fact that opposed to the previous directive-based approach aimed at harmonizing national regulations in the future the most important provisions regulating payment services will be laid down in a regulation that is directly applicable in all Member States. The proposal for the PSR beyond the already harmonised rules also includes new provisions, as the experience gathered during the implementation of PSD2 by the Member States and the resulting objectives

(such as reinforcing consumer protection and trust in payment services, enhancing the competitiveness of open banking services) justified the introduction of new legal concepts as well.

With regard to the issue of electronic payment fraud, the proposal for the PSR points to tangible changes for users of electronic payment solutions as well, in response to the latest challenges in electronic payments. In its recitals, the draft PSR emphasises the enhanced responsibility of payment service providers in preventing fraud, taking into account the fact that for this they have more tools at their disposal than consumers, even in cooperation with service providers in other sectors (such as telecommunications) as well. Based on similar considerations, the MNB supports and also encourages payment service providers in their efforts to combat fraud with its proposals, in particular, with proposals for concept-level regulatory amendments and with setting its expectations and best practices in its recommendations addressed to the payment service providers. Since these expectations in many cases overlap with the approaches included in the draft PSR as well as the positions on certain issues expressed during the professional discussions while drafting the PSR, by fulfilling these recommendations, the payment service providers may face fewer development needs when the PSR takes effect.

In terms of combating fraud, the proposal for the PSR by focusing on consumer interests is about to bring significant changes concerning liability for fraud and the allocation of losses. In this context, the amendment of liability rules, i.e. ensuring a more even distribution of losses due to fraud between the consumers and the payment service providers, also comes into focus. A major innovation of the draft PSR in this respect would be the introduction of a full reimbursement obligation for payment service providers in cases where fraudsters pretend to be employees of a customer's payment service provider, provided that the customer has not previously fallen victim to such fraud. A new measure with a similar aim is the introduction of a new legal concept in connection with transfer orders, i.e. verification of whether the beneficiary's name provided in the transfer order is linked to the payment account identifier (the so-called verification of payee, VoP service), which is already in use in several European states. This service offers customers the option to decide whether to give a transfer order despite the beneficiary's name they have provided does not match or only partially matches the beneficiary's name actually linked to the payment account identifier. Furthermore, the revised provisions on strong customer authentication and, by enhancing competition, on open banking regulations may also lead to changes at the customer level.

Hungary held the presidency of the Council of the European Union in the second half of 2024, and therefore, the professional proposals put forward by the Hungarian side, with the active participation of the MNB, played a key role in consolidating the proposed text of the PSR. After the publication of the regulatory package on the new payment services regulation, following the Spanish and the Belgian presidency, in the second half of 2024 Hungary performed the tasks related to the finalisation of the proposals. In its programme, the Hungarian presidency emphasised that a review of the payment services rules was of significant importance in terms of the challenges and opportunities posed by digitalisation. As the authority with legislative powers over domestic payment regulation and with supervisory powers over entities providing payment services, the MNB participates at the expert level in negotiations aimed at developing a compromise text of the proposal, contributing to the formulation of the Hungarian position, and it also provided expert-level support for the work of the Hungarian presidency. The Council of the European Union approved the Council's stance on the proposed text of the draft PSR formulated in consultation with the Member States on 18 June 2025, after which trialogue negotiations started with the aim to align the positions of the legislative bodies of the European Union on the proposed text to make it possible to conclude the legislative process and for the PSR to take effect as soon as possible.

2.4.6 Developments Related to the Digital Euro

The central banks of the euro area, led by the European Central Bank (ECB), began joint efforts in 2020 to implement a central bank digital currency that meets the requirements of the modern economy while preserving the security and stability characteristic of central bank money. The digital euro is not primarily a monetary policy instrument, but rather a strategic development of the payment system, which aids in the modernisation of the payment infrastructure, increases competition and makes the European economy more resilient against the dominance of global technological players. The goal is to create a universally accessible, reliable and innovative digital payment instrument that complements current cash and market electronic payment instruments.

The current phase of the digital euro project focuses on defining the framework for practical implementation. After the design phase, the digital euro project has entered the phase of preparation for implementation. The current period focuses on developing a detailed operational and business model, involving potential market participants

and defining their tasks, while the next implementation phase, starting in November 2025, will focus on building and testing the infrastructure.

One of the key considerations for the ECB in the design of the digital euro is to preserve and strengthen Europe's financial sovereignty. The dominance of international (non-European) card companies in electronic payments and the resulting geopolitical risks increasingly make it necessary to introduce a strong, central bank-issued digital payment instrument in Europe. The digital euro can provide the possibility for the European economy to ensure electronic payment solutions for its citizens and businesses via its own infrastructure, in an independent and controlled manner. In this regard, the goals of the digital euro align with the motivations for introducing domestic qvick payments, as both projects emphasise the development of a new, widely usable domestic electronic payment infrastructure, thereby strengthening economic sovereignty.

Particular attention will be paid in the project on user experience and data security. The concept of the digital euro is centered around end-users: the goal is for the solution to be easy to use, widely accessible and available to consumers free of charge. One important element of the concept is that the legal status of the digital euro will be the same as that of euro cash, making it a mandatory accepted payment instrument throughout the euro area, thus ensuring financial inclusion and the smooth functioning of the single market. Based on social consultations, data protection is of paramount importance to users, and accordingly during the design of the system the highest levels of data protection and security requirements will be applied, ensuring that the European Central Bank, which operates the central infrastructure, will not see the individual data of end-users during the use of the digital euro. In addition, the project will remain open to various technological solutions, allowing for the integration of competitive, innovative services.

The MNB continues to participate in the international professional discourse on central bank digital currency. Although Hungary is not a member of the euro area, introduction of the digital euro could also affect domestic payments. Therefore, the MNB is monitoring the progress of the project, participating in European Union consultations regarding the regulation of the digital euro and continuously examining the potential domestic impacts of its introduction. Additionally, the MNB continues to analyse the regulatory, payments and technological aspects of introducing a domestic central bank digital currency.

3 Financial Market Infrastructures

The reliable, efficient operation of financial market infrastructures is essential for the performance of real economic and financial transactions. Payments in central bank or commercial bank money and transactions performed with securities and other financial instruments require centralised systems that allow for the clearing and settlement of transactions. VIBER is a real-time gross settlement system (RTGS) operated by the MNB, which is primarily used for the settlement of large-value money and capital market transactions between participants and their customers, as well as the settlement of transactions cleared by related financial market infrastructures (Interbank Clearing System (ICS), KELER Group, Continuous

Linked Settlement System (CLS)). The ICS is a gross payment system operated by GIRO Zrt. (GIRO), which is primarily used for clearing low-value payments between households and companies, with three settlement methods: instant, intraday and overnight clearing. Members of the KELER Group, i.e. the central securities depository (KELER CSD) and the central counterparty (KELER CCP), are responsible for securities clearing and settlement services, as well as the registration of domestically issued securities. The CLS is an international foreign exchange settlement system operated by CLS Bank, which is based on a multi-currency payment-versus-payment (PvP) mechanism and enables the elimination of FX settlement risks.

Table 4
Evolution of turnover in domestic financial market infrastructures (2022–2024)

Overseen systems		Volume (thousand)			Value (HUF thousand billion)		
		2022	2023	2024	2022	2023	2024
VIBER		2,083	2,244	2,287	2,640	3,555	2,562
ICS	Overnight clearing	73,777	70,830	68,149	5	6	7
	Intraday clearing	156,590	151,001	151,437	178	190	196
	Instant clearing	153,352	162,406	181,903	28	30	36
KELER		610	622	619	250	409	735
KELER CCP*		2,518	1,693	1,694	9	6	7

* Data refer to the capital market.

In 2024, domestic financial market infrastructures contributed to the functioning of the national economy with high availability and efficient, reliable operations. In its daily operations, KELER and KELER CCP ensured that various securities operations and securities and energy market transactions were executed seamlessly, while the payment transactions of economic participants were processed quickly and predictably with the help of ICS and VIBER. Domestic payments, as well as securities clearing and settlement systems, play a key role in the functioning of the national economy. With their reliable operation, they have been ensuring secure, efficient, fast and predictable cash flows and securities operations between economic participants for many years, supporting the access of system participants to liquidity and reducing financial risks. In 2024 as well, via their operations, they

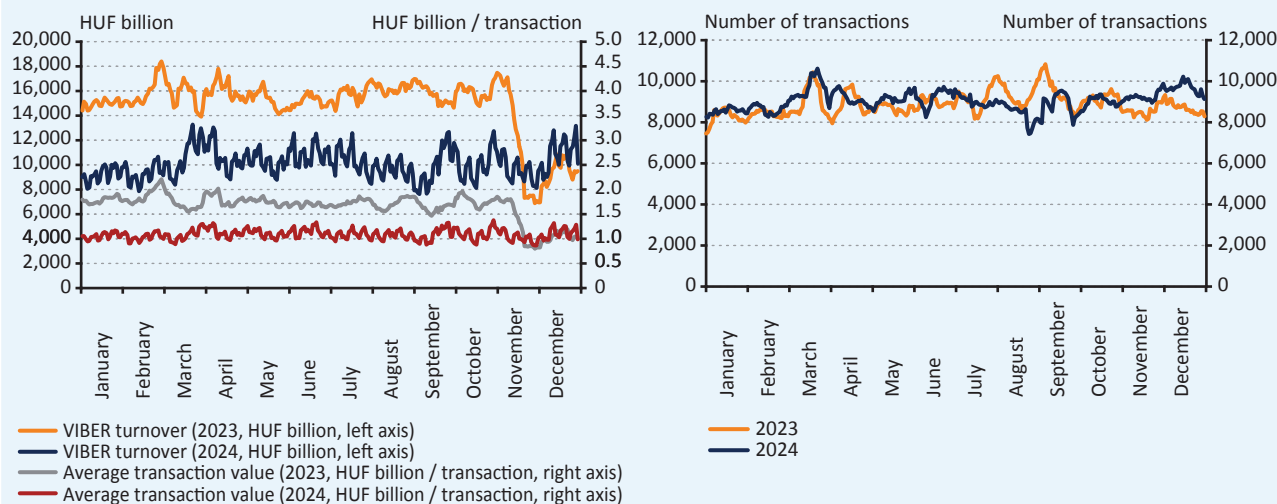
contributed organically to maintaining financial stability, preserving confidence in the financial system and, overall, to the daily functioning of the national economy.

3.1 VIBER

In 2024, the value of VIBER transactions fell by nearly 28 per cent, while the number of transactions rose by 1.9 per cent (Table 4). Compared to the previous year, the decline in value was significant during the first three quarters, due to the phasing out of the deposit quick tender in October 2023 (Chart 59). The lower value is due to the drop in securities transactions, as well as other central bank items, such as the deposit quick tender. In 2024, the average transaction size was HUF 464 million lower than in 2023.

Chart 59

Development of VIBER transaction value, average transaction value (left) and number of transactions (right), year-on-year

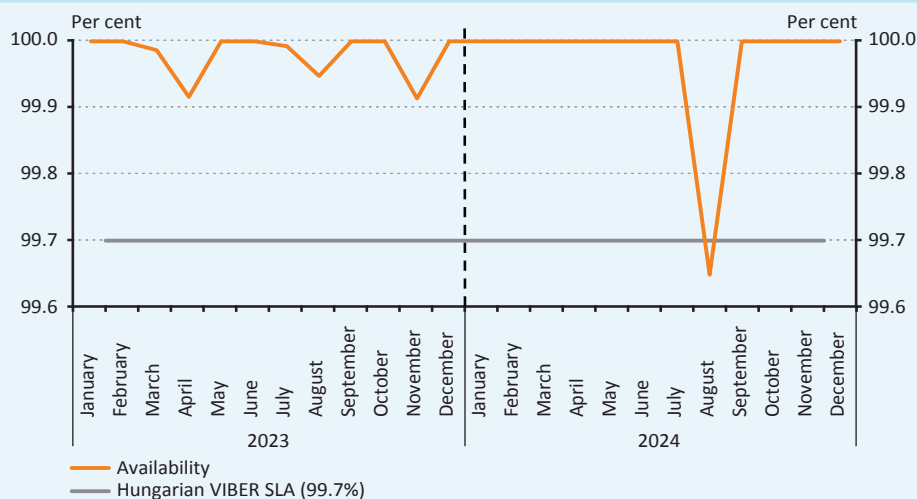


In 2024, VIBER operated with high reliability and security, with a slight decrease in the risk of service continuity compared to the previous year. The stable operation of VIBER is demonstrated by the fact that in 2024, participants only faced a complete service outage for one

day, with the incident lasting 49 minutes. As a result, there was one month when VIBER's availability did not meet the 99.7 per cent oversight expectation (Chart 60). Operating in a hybrid work model still did not have a measurable negative impact on VIBER's operational reliability.

Chart 60

VIBER availability (2023–2024)

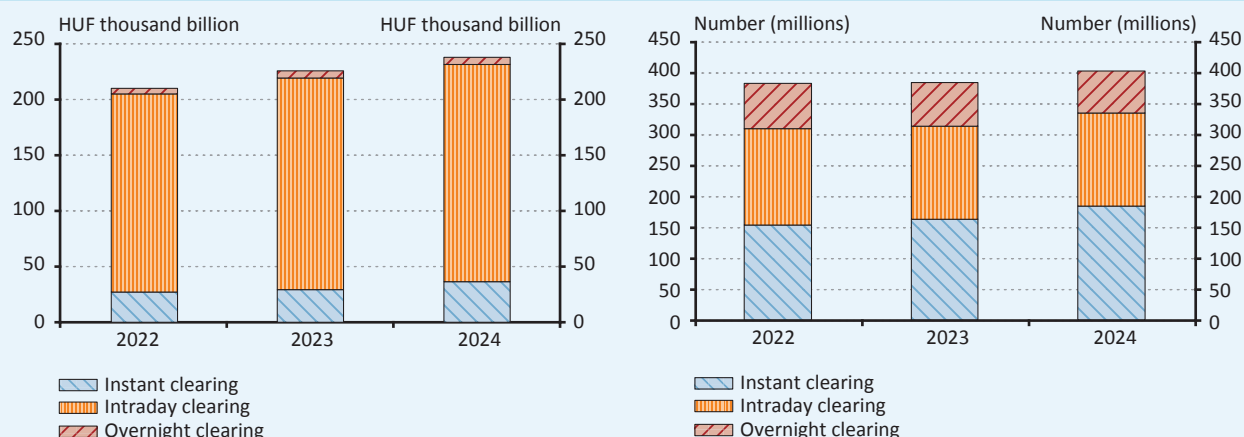


3.2 ICS

The total transaction volume and value increased on all three ICS platforms, with the volume of instant payments growing most dynamically and steadily capturing a larger share of the payment transaction pie. Following the shift towards instant transactions, 82 per cent of the total value on the three ICS platforms was settled via intraday clearing, 15 per cent via instant clearing and 3 per cent via overnight clearing (Table 4). The low share of overnight clearing is due to the fact that only a portion of the Hungarian State

Treasury's transfers (e.g. pension and family subsidy), as well as collection-type transactions of ICS participants, are cleared on the platform. The pattern from previous years continued in terms of transaction volumes, with a slight decrease or potential stagnation in intraday and overnight clearing, while the number of transactions in instant clearing showed a significant, 12-per cent increase. In terms of value, in addition to the 23-per cent increase in instant clearing, intraday clearing rose by 3 per cent, while overnight clearing saw a 9-per cent increase over the year (Chart 61).

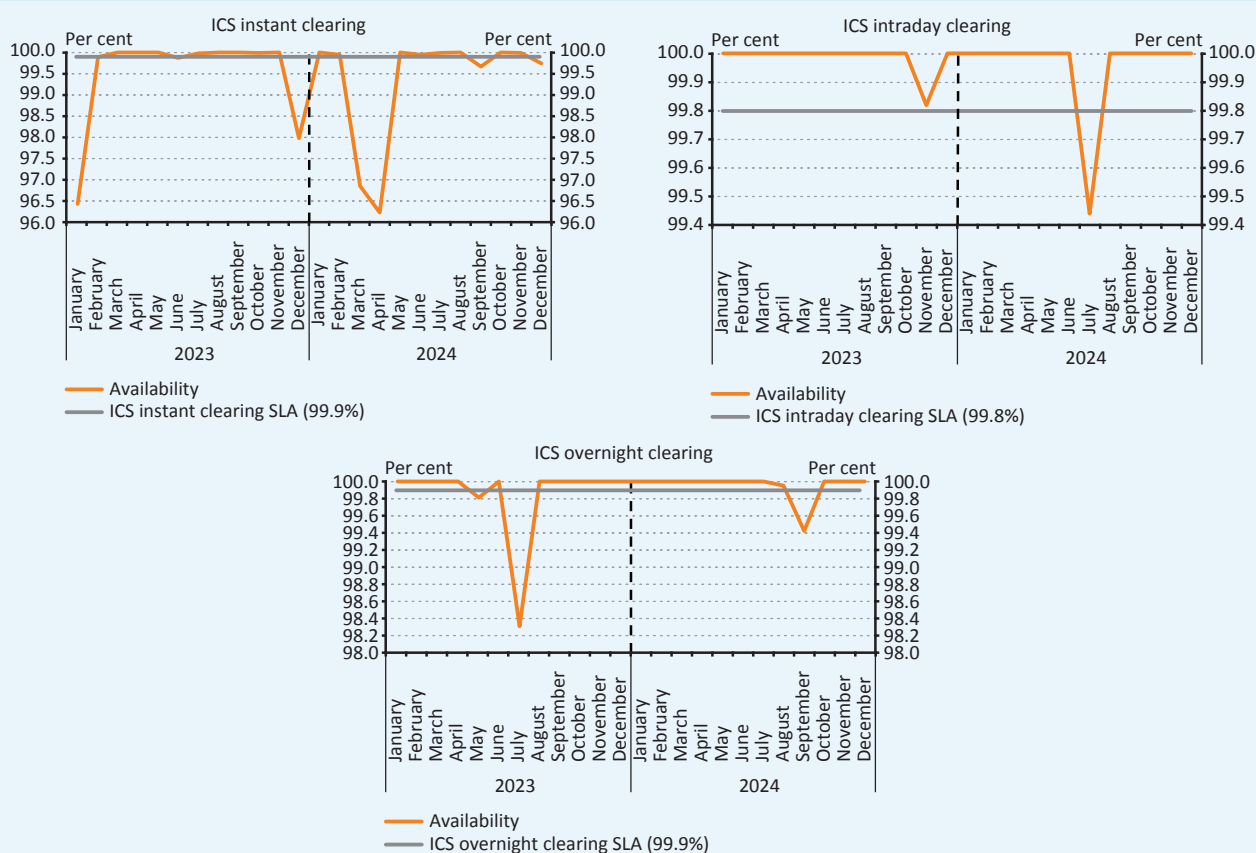
Chart 61
Distribution of turnover on ICS platforms (2022–2024)



In 2024, ICS instant, intraday and overnight clearing operated reliably and securely. The availability of the ICS overnight and intraday clearing platforms met the oversight expectations of 99.9 per cent and 99.8 per cent in eleven months, respectively, while instant clearing met the same expectations in eight months. As a result, the clients

of ICS participants only faced disruptions from incidents on the ICS platforms on 18 days throughout the entire year and for a short period of time. In some cases, participants experienced delays in the execution of a cycle in intraday clearing or encountered rejected instant transfers due to timeouts in instant clearing (Chart 62).

Chart 62
ICS availability (2023–2024)



3.3 CLS

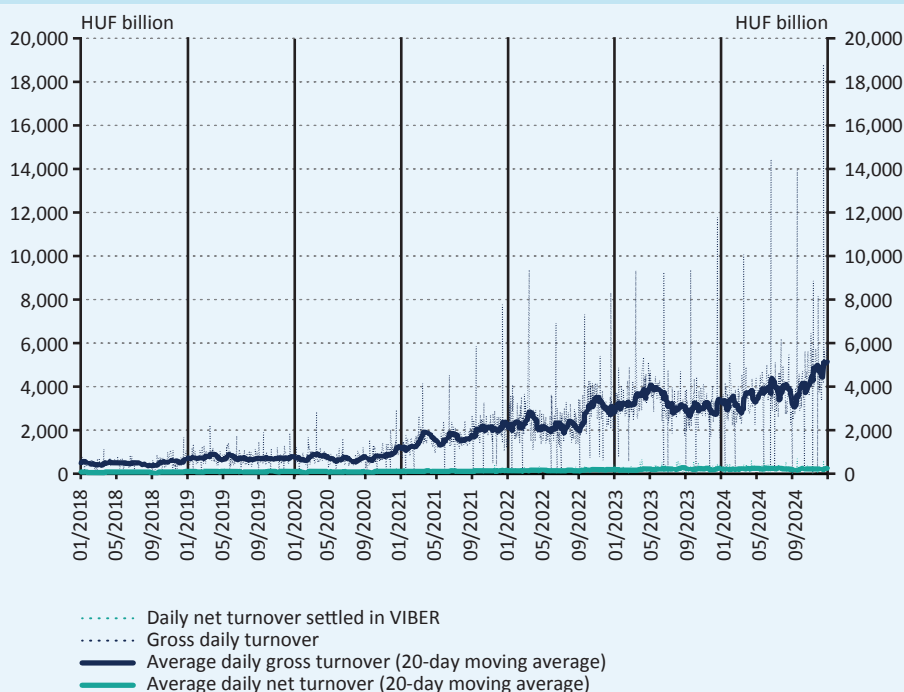
In 2024, HUF 961,000 billion gross turnover was processed in the CLS foreign exchange settlement system, marking a year-on-year increase of 17 per cent. The high turnover was accompanied by a significant netting effect, so the net turnover in VIBER related to this grew by only 5 per cent year-on-year. The number of participants continued to rise, with 35 participants taking part in HUF CLS settlement by the end of 2024, via one of the six nostro service providers available. Turnover increased significantly in the second half of the year in particular, with an average daily turnover amounting to more than HUF 5,200 billion in December.

CLS transactions in HUF were handled in conjunction with stable operations, as CLS achieved service availability of 100 per cent throughout the year. In 2024 only on five days was the HUF pay-in obligation made late during the morning processes. One of these late pay-in caused a one-hour delay in CLS settlement completion. In 2024, one VIBER incident delayed the opening of the HUF CLS payment schedule.

3.4 LIQUIDITY IN PAYMENT SYSTEMS

Liquidity in VIBER and ICS is essentially determined by the same factors; any changes in these factors equally affect both systems and their participants. The settlement of ICS intraday and overnight clearing takes place directly in VIBER. Accordingly, for the payment transactions the participants use the same liquidity – i.e. the account balance on their payment account held with the MNB and the credit line received in exchange for securities holdings pledged to the MNB – in VIBER as well as in ICS overnight and intraday clearing. In the case of ICS instant clearing, settlement is carried out by inserting an additional step. The participants must place the collateral in advance on the technical collection account held with the MNB for instant settlement, and in line with that, on behalf of the MNB, GIRO manages the instant settlement account balances for each participant. In addition to the turnover that takes place, the balance can be increased or reduced to the debit or credit of the liquidity in VIBER through instant internal transfer. Outside of VIBER operating hours, the liquidity can be expanded through central bank lending, i.e. by instant credit provided on the basis of collateral pledged to the MNB.

Chart 63
CLS turnover



3.4.1 Factors that Influence Liquidity

The extended liquidity of VIBER participants remained relatively stable throughout the year, ranging between HUF 11,500 billion and HUF 12,000 billion. Despite the decline in the last quarter of 2023, the liquidity was still more than sufficient to manage volatile payment transactions.

A major change in the central bank's instruments did not affect the participants' liquidity in 2024. The liquidity level, expanded with overnight deposits, remained relatively stable in VIBER during the first three quarters of 2023, averaging HUF 13,500 billion. However, by the end of September, the level of extended liquidity for VIBER participants fell significantly due to the termination of the deposit quick tender, in which participants had placed HUF 7,000–8,000 billion daily before its termination. The value of the expanded liquidity dropped from HUF 13,500 billion at the beginning of October to HUF 11,500 billion by the end of December, and this level then remained stable throughout 2024. The composition of liquidity

did not change significantly throughout the year, with 83.5 per cent provided by the VIBER account balance on average and 16.5 per cent by the intraday credit line. The minimum reserve ratio did not change during 2024 (Chart 64). The drop in extended liquidity was also influenced by the change in the intraday credit line, which fell from HUF 4,000 billion at the beginning of 2023 to HUF 2,000 billion at the start of 2024, and then fell further to HUF 1,500 billion by April 2024. This was mainly due to the phasing-out of liquidity-absorbing deposits, the decrease in government securities holdings and a decline in long-term deposits. The composition of the pledged collateral behind the intraday credit line also changed in 2024, with the share of government bonds increasing by nearly 10 percentage points over the year (Chart 65). The value of potentially pledged collateral increased significantly, rising from HUF 6,000 billion at the start of the year to HUF 8,000 billion at the end of the year, thereby securing the already ample level of cash liquidity.

Chart 64
VIBER liquidity and turnover (2022–2024)

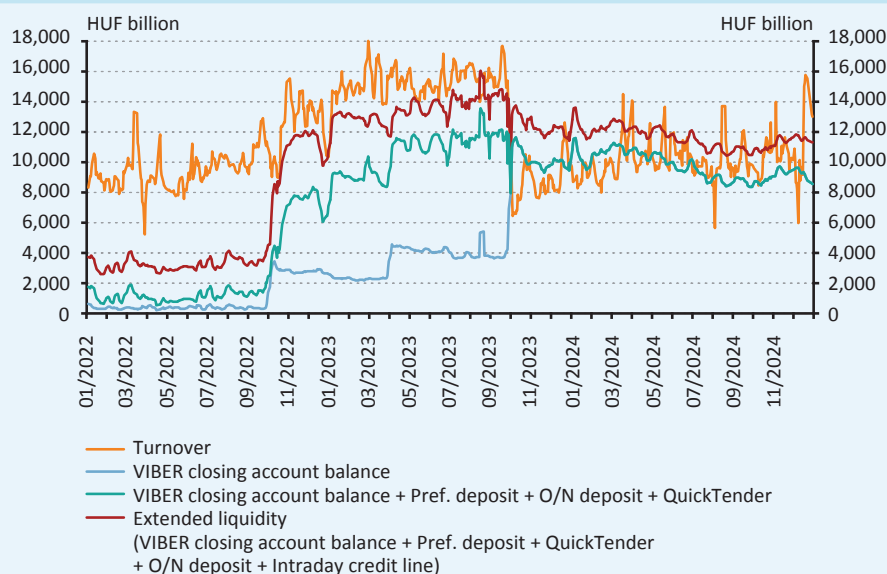
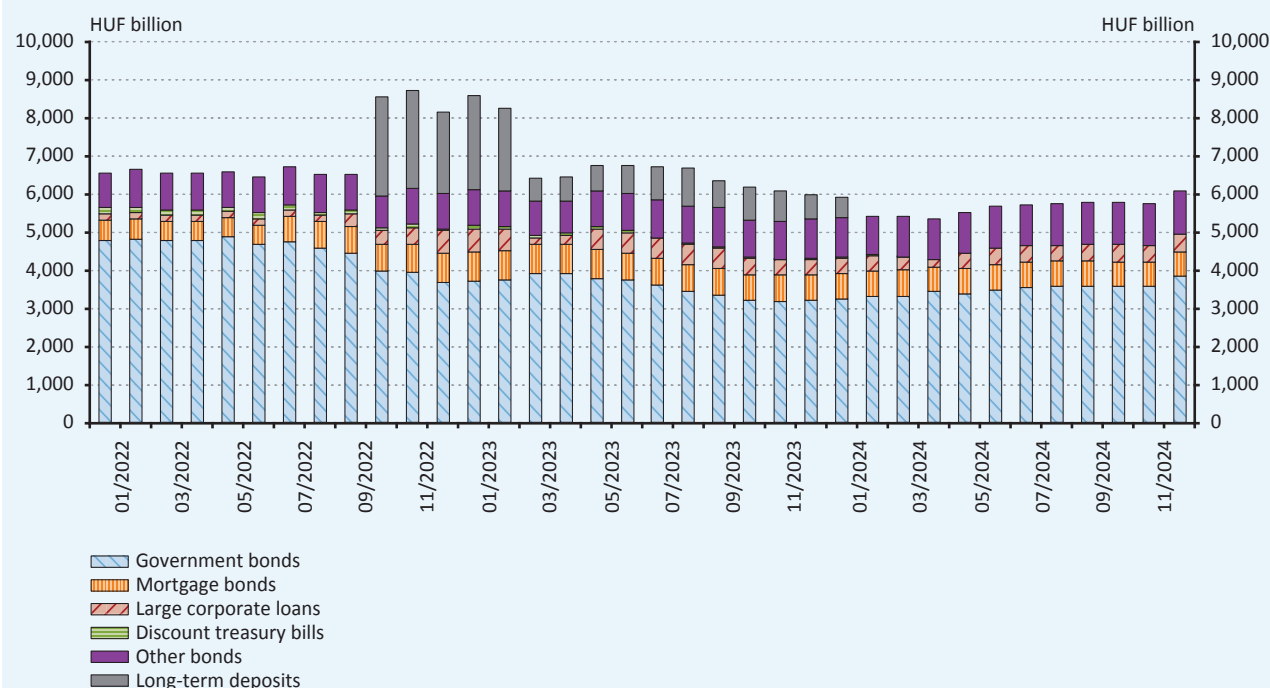


Chart 65
Pledged collateral (2022–2024)



Note: The values reflect end-of-month positions.

3.4.2 Liquidity Management of VIBER and ICS Participants

VIBER

In 2024, an increase in the value of VIBER transactions was observed in half of the intraday time intervals. Specifically, transaction values rose between the opening time and 11:00, as well as between 15:00 and 16:00, while in all other time intervals the value of transactions declined. The number of transactions also showed an increase. Although declines occurred in four time intervals, namely 7:00–8:00, 10:00–11:00, 13:00–14:00 and 17:00–18:00, the total annual transaction count rose by 1.9 per cent overall. Unlike in previous years, transaction sizes in 2024 were more evenly distributed throughout the year. As a result, by 10:00, approximately 50 per cent of VIBER transaction had been initiated, both in terms of volume and value. As in previous years, VIBER participants' higher-value transactions were predominantly settled in the late afternoon and evening periods. In contrast to previous years, in 2024 no substantial VIBER transaction was executed during the final hour before system closing, which can be attributed to the phase-out of the overnight deposit quick tender in October 2023. After this instrument was discontinued in October 2023, transaction

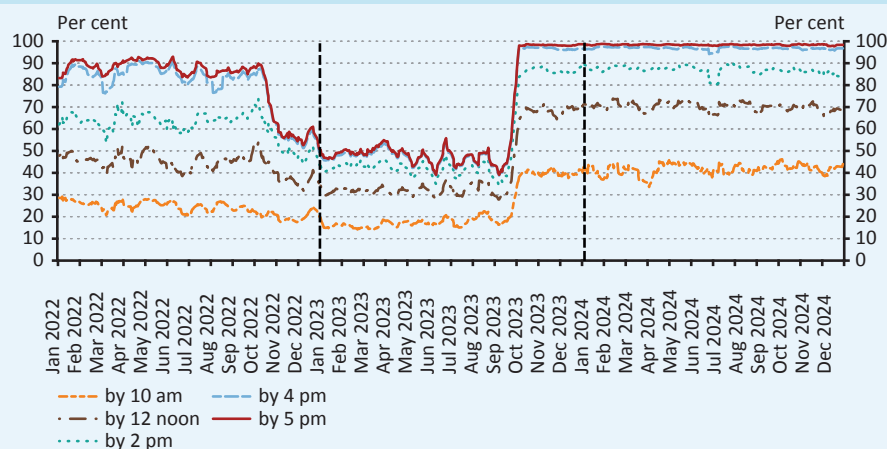
activity shifted to earlier hours, resulting in nearly 90 per cent of daily turnover being settled by 14:00 throughout 2024 (Chart 66).

As a result of the ample liquidity in the system, only a very low portion of VIBER transactions continued to be queued due to shortage of liquidity. In total, 0.08 per cent of VIBER transactions were subject to queuing in 2024.

Compared to the previous year, VIBER participants used their credit line somewhat more extensively than in the previous year, but the pattern by time band of the value of intraday credit line use was similar to that observed in 2022. The majority of participants are able to settle their VIBER transactions using their account balances. Although VIBER participants took out more intraday credit during the year, meaning they made more use of their credit lines, the Maximum Utilisation of Credit Lines (MUCL) at any given moment remained low at the system level (ranging between 0 per cent and 2.8 per cent). Compared to 2023, MUCL decreased by nearly 1 percentage point. The highest system-wide utilisation in 2024 occurred on 30 August, reaching 2.8 per cent. In terms of value, three VIBER participants stood out in their use of credit lines, accounting for 78 per cent of the intraday loans outstanding during the year.

Chart 66

Timing of VIBER turnover based on transaction value (portion of total daily transaction value completed by a specific point in time) (2022–2024)



Note: Excluding the transactions of the MNB, KELER, the Hungarian State Treasury, GIRO and the Hungarian Post.

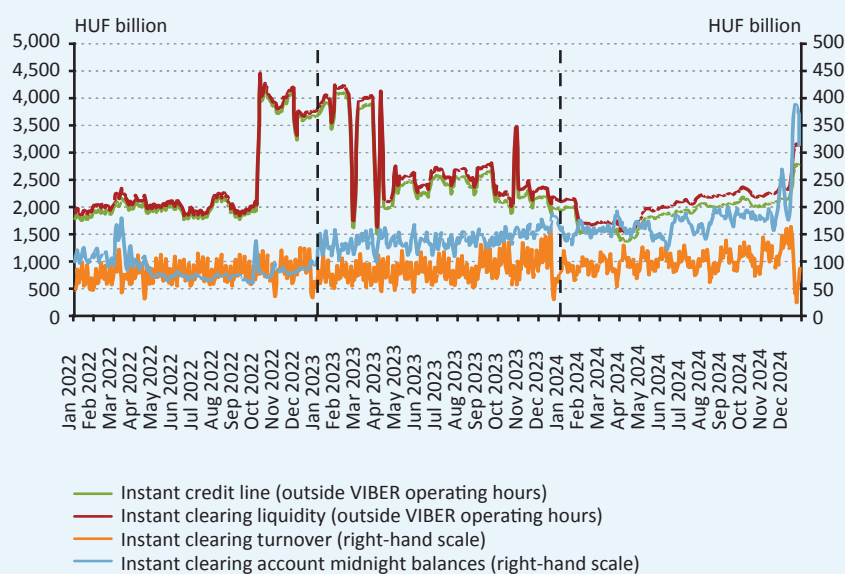
ICS Instant, Intraday and Overnight Clearing

Participants planned the instant liquidity level for instant clearing and VIBER liquidity level required for the intraday and overnight clearing in the ICS with sufficient certainty to ensure smooth settlement in 2024. While the intraday and overnight clearing of the ICS are executed in VIBER using VIBER liquidity, the ICS instant settlement follows a different mechanism, relying on a dedicated pooled account – the instant settlement account – where participants pre-fund their collateral. The turnover in intraday clearing cycles was balanced; sufficient liquidity

was available both at the level of the system and at individual participants' level. No transaction was refused due to uncovered positions in overnight clearing. In 2024, participants' aggregate account balance in instant clearing was typically between HUF 93 billion and HUF 393 billion, showing an increase versus the previous year. A significant rise in account balances was observed during the last 10 days of the year; however, most of the year was characterised by stable, gradual growth, aside from a few isolated cases. Throughout the year, instant credit was utilised on 18 separate days, in 19 instances, with a total value of HUF 88.9 billion (Chart 67).

Chart 67

Turnover and liquidity of instant clearing (2022–2024)



Note: based on 5-day moving averages.

In 2024, completing the intraday settlement cycles required only 0.1 per cent to 1.4 per cent of the total liquidity available in VIBER at any point in time, with the average value per cycle amounting to HUF 78 billion. Despite this, temporary collateral shortfalls were still observed in intraday clearing in 2024. If an ICS participant fails to provide sufficient collateral in VIBER for the settlement of transactions submitted for the respective ICS intraday cycle, the transactions left without funding are transferred to the next clearing cycle in the case of cycles 1-9, while transactions that are uncovered in cycle 10 are rejected by the system. In 2024, due to liquidity shortage, on 42 occasions in total, some ICS participants were unable to provide collateral for transactions amounting to HUF 348.89 billion; as a result, these transactions were deferred to the following settlement cycle. Resulting from the settlement method of overnight clearing, there is no need for participants' continuous liquidity management.

CLS

In 2024, payments to CLS did not cause any liquidity problems for the affected participants in VIBER, and thus the related clearing and settlement risk in VIBER remained low. For CLS settlement of their foreign exchange transactions with a forint leg, direct participants of CLS provided forint funding through six VIBER participants as nostro account holders, since they themselves are not direct VIBER participants.²⁵ Payments related to CLS settlement are completed in two time windows specified by CLS, i.e. between 7:00–8:00 (CET) and 8:00–9:00 (CET). In 2024, daily average CLS pay-in turnover reached HUF 233 billion,²⁶ which accounts for 0.9–7.6 per cent of total daily VIBER turnover. Despite the high transaction volumes, CLS-related payments by the nostro account holders were mostly settled from existing account balances in 2024, with credit lines being used only occasionally.

3.5 KELER

In 2024, the value of securities transactions settled by KELER rose significantly, mainly as a result of MNB bond

issuances, while the number of transactions showed a slight decline. From a value perspective, last year's turnover exceeded that of the previous year by HUF 326 trillion — representing an increase of more than 1.5 times. In terms of volume, 2,600 fewer transactions were settled compared to 2023. The significant growth in transaction value is attributable to bond issuances by the MNB, which employs these instruments as part of its monetary policy framework. Last year, MNB bonds represented 50 per cent of the total value of securities transactions settled by KELER, up from only 27 per cent in 2023. If central bank instruments are excluded for both years, the value of transactions settled by KELER would have increased by HUF 63 trillion. This means that the MNB's monetary policy instruments accounted for an additional HUF 261 trillion in transaction value. In terms of transaction value, a substantial increase was already observed in 2023, followed by further significant growth in 2024. While the trend of increasing settlement volumes plateaued in 2024, the value of settled transactions continued to expand significantly.

In the securities settlement system, settlement risks increased in 2024 compared to the previous year, primarily because “delivery-versus-payment” transactions accounted for a lower share of the transactions processed by KELER compared to 2023. The share of settlements conducted in central bank money remains high. In 2024, 65.9 per cent of the total transaction value consisted of delivery-versus-payment (DvP)²⁷ transactions, while 34.1 per cent were free-of-payment (FoP)²⁸ transactions. In 2023, the share of DvP transactions was higher, at 73.4 per cent. The value of DvP transactions increased by 60.4 per cent compared to the previous year, partly due to bond issuances by the MNB, while their number rose by 5.8 per cent. The value of FoP transactions increased by 131.1 per cent compared to 2023, while their number decreased by 6.9 per cent. In terms of settled instruments, government bonds continued to represent the largest share of both FoP and DvP transactions, similarly to previous years.²⁹ The continued high share of settlements in central bank money contributes significantly to the reduction of settlement

²⁵ VIBER members serving as nostro agents for CLS-related settlements: CIB Bank, Citibank, K&H Bank, OTP Bank, Raiffeisen Bank and UniCredit Bank.

²⁶ When both incoming and outgoing CLS-related payments are considered, the average daily transaction value doubles, reaching approximately HUF 460 billion. This represents 1.9 per cent to 15 per cent of the average daily VIBER transaction volume.

²⁷ A DvP-type securities account transfer is a transaction in which a specific series of securities is debited, in exchange for the crediting of the monetary countervalue to a cash account held either with the MNB or with KELER. Debiting and crediting take place simultaneously, thereby mitigating the risk that one leg of the transaction is completed without the other being fulfilled.

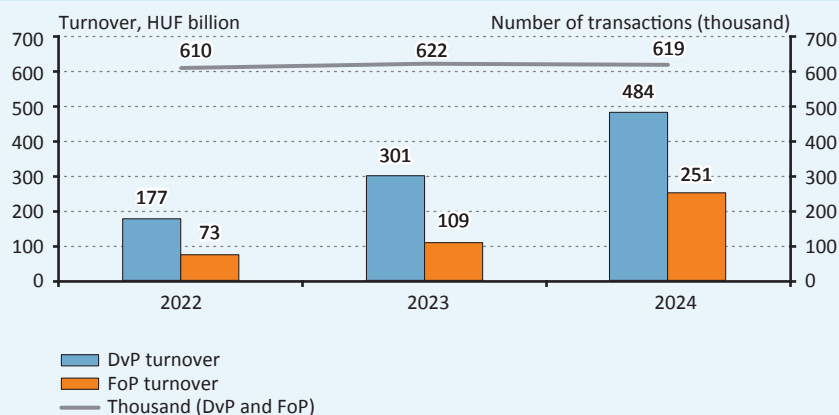
²⁸ A free-of-payment (FoP) transaction refers to a securities transfer in which no cash movement is directly linked to the settlement. This does not imply that the purchase price of the securities is not settled, but rather that the payment occurs via a channel outside the visibility of the central securities depository. Due to the separation of the payment operation and the securities transfer, FoP transactions are considered riskier than DvP transactions in certain respects.

²⁹ Turnover refers to the transactions settled by KELER's securities settlement system, which are primarily analysed based on transaction type, considering both the total value and the number of transactions.

risks. Furthermore, it should be noted that the declining share of DvP transactions among all settled transactions has led to a slight increase in settlement risk, given that

DvP is regarded as a safer settlement method than FoP, since settlement under DvP occurs only when both sides of the transaction are available.

Chart 68
KELER turnover (2022–2024)



In 2024, the number of failed settlements continued to fall sharply. During the settlement of transactions, KELER executes the funds transfers³⁰ and securities transfers of the parties to the transaction on the scheduled settlement date³¹ of the securities. It is a failed settlement if the settlement of the securities transaction does not occur on the intended settlement date. The CSDR7 report on failed settlements was available in both 2023 and 2024, providing details on the number and total amount of penalties imposed by KELER on account holders that caused settlement failures in the settlement system. It can be concluded that the introduction of the new rules has apparently led to a significant decrease in the value of failed settlements in the cash leg of securities transactions. This is because, under the logic of the new CSDR7 reporting framework, a failure in the securities leg need not be reported if there is also a lack of collateral in the cash leg. In such cases, the transaction is classified solely as a securities-side failure, even if collateral is also unavailable on the cash side. Cash-side collateral shortfalls are reportable only when the corresponding securities are available for settlement. Another possible reason is that the strict cash penalty mechanism has improved settlement discipline in the market. As a result, market participants are acting in a way that aims to avoid settlement failures and thereby avoid incurring penalty fees. The regulation has achieved its objective, as counterparties have become

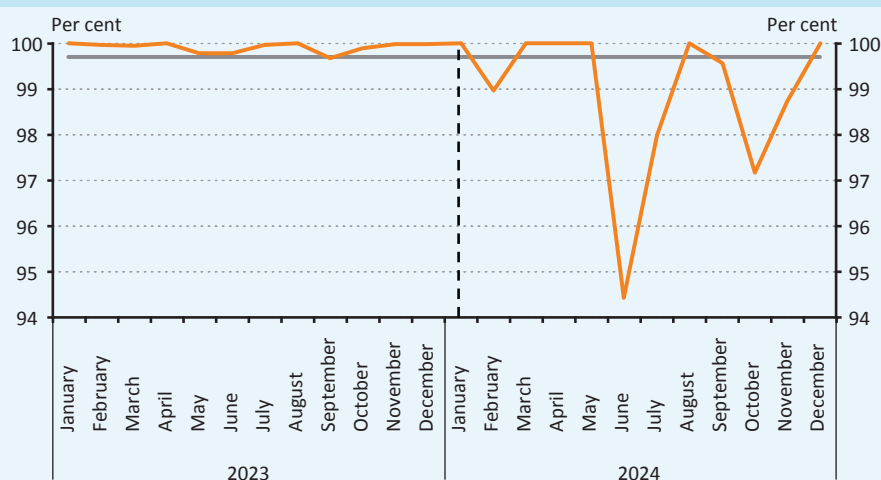
incentivised to ensure that both the cash and securities legs required for settlement are made available on time. Consequently, in 2024, only 0.7 per cent of the total transaction value and 1.5 per cent of the total volume settled by KELER failed, showing a decrease compared to 2023, when 2.8 per cent of the total value and 1.9 per cent of the volume of transactions failed to settle. In 2024, failures in the securities leg accounted for the dominant share of all failed transactions, mirroring the trend observed in 2023. Nonetheless, the overall failure rate declined substantially compared to 2023, both in terms of securities and cash-side failures.

In 2024, KELER operated in a fundamentally reliable and secure manner, although availability did not reach the expected level for half of the year. In contrast to the previous year, when the supervisory threshold of 99.7 per cent external availability was not met in just a single month, in 2024 the benchmark was exceeded in six months (Chart 69). The picture is somewhat improved by the fact that approximately one-third of the incidents affected KELER's most critical processes, the settlement processes, where error resolution occurred relatively quickly. The remaining two-thirds of system disruptions were caused by issues in less critical areas, such as reporting and securities issuance processes.

³⁰ If the transaction has a cash leg as well, it cannot be interpreted in the case of the FoP transaction type.

³¹ Typically SD+2, also referred to as T+2 — or ISD (Intended Settlement Date) in SDR terminology.

Chart 69
Monthly availability (2023–2024)



Source: MNB analysis based on data provided by KELER

Based on the Digital Operational Resilience Act (DORA³²), KELER conducted a review of its processes and identified 46 services as critical or important — a significant increase from the previous 19. DORA sets out rules regarding the capabilities for protection against, detection of, containment, recovery from and remediation of ICT (information and communication technology)-related security incidents. Furthermore, it explicitly refers to ICT risk and establishes requirements for ICT risk management, incident reporting, operational resilience testing and the monitoring of third-party ICT risks. The threat-led penetration testing (TLPT³³) expectations set out in the DORA Regulation currently pose an undefined level of challenge for KELER. KELER is not only a recipient of ICT services, but also acts as an ICT service provider. As a result of DORA, the methodology for classifying functions has changed, resulting in a higher number of services being designated as critical or important.

3.6 KELER CCP

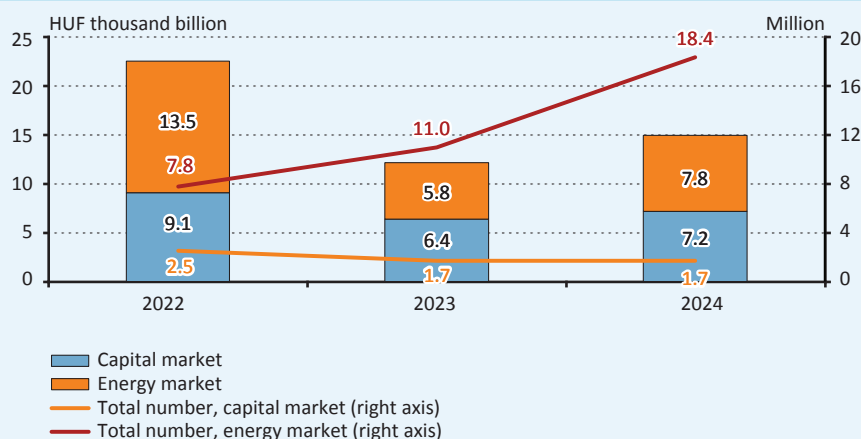
In 2024, turnover on the markets cleared by KELER CCP increased by a total of 23 per cent year-on-year. KELER CCP clears financial instruments traded on the Budapest

Stock Exchange (BSE) and the MTF markets, and the domestic gas markets, as a central contracting party and it provides services, as a general clearing member for its sub-clearing members for the spot and forward electricity, natural gas and emission quota products that can be traded on the energy markets cleared by the German ECC. The value of capital market transactions cleared by the central counterparty was around HUF 9,100 billion, representing a 13-per cent increase relative to the previous year. Compared to 2023, the annual turnover of spot capital market transactions increased by 4 per cent, corresponding to growth of around HUF 197 billion, while growth in derivative markets also reached 29 per cent, worth HUF 553 billion. A 30-per cent turnover increase occurred in the spot market in the gas markets cleared as central contracting party, but there was also a 26-per cent drop in forward trading. The service provided as a general ECC-related clearing member was similar to the capital markets, with an 11-per cent increase in spot energy markets and a 68-per cent rise increase in futures markets versus the previous year (Chart 70.).

³² To close a loophole in legislation the Digital Operational Resilience Act (DORA) opens a new dimension in the management of operational risks. Before the effective date of DORA regulation, financial institutions managed the main categories of their operational risks by capital allocation, but they did not manage all components of operational resilience. After the entry into force of DORA, stakeholders must also comply with the rules on protection, detection, containment, recovery and repair capabilities against ICT-related security incidents. DORA explicitly refers to ICT risk and establishes requirements for ICT risk management, incident reporting, operational resilience testing and the monitoring of third-party ICT risks. It recognises that ICT-related security incidents and lack of operational resilience can threaten the stability of the financial system as a whole, even if “adequate” capital is available for conventional risk categories. The primary objective of DORA is to consolidate and modernise the ICT-related risk requirements that have been addressed separately in different regulations and directives.

³³ Threat Led Penetration Testing (TLPT)

Chart 70
KELER CCP turnover



KELER CCP operation was highly reliable and secure in 2024. Although the availability requirement was not met as expected in one month, the trend is still positive, and service availability risk is low. The external availability indicator exceeded the supervisor's expectation of 99.7 per cent in eleven months and was marginally below that level in one month (Chart 71.).

KELER CCP's annual supervisory College meeting as per EMIR23 took place successfully in 2024 again. As a result, the College found the compliance of KELER CCP's operation with the law to be adequate as well as the MNB's supervisory and oversight activity. The meeting of the College, composed of the international supervisory authorities and the European Securities and Markets Authority (hereinafter referred to as "ESMA"), was held on 17 October 2024, in a hybrid format. In the first part

of the meeting, the supervisory and oversight activities carried out by the MNB in 2024, and the results of the comprehensive supervisory audit completed in 2024 were discussed, while in the second part the most important events involving KELER CCP in the previous year and its most important strategic goals and plans were discussed. During the meeting, the members of the College assessed the supervisory and oversight activities of the MNB and the functioning of KELER CCP as per the EMIR system, and thus the meeting was closed successfully.

In 2024, both the number and the value of defaults increased year-on-year resulting in a rise in credit risks for KELER CCP. In the capital markets, KELER CCP guarantees both the cash and securities side settlement of transactions, while in the energy markets it only provides financial guarantees. The business rules of KELER CCP

Chart 71
KELER CCP availability (2023–2024)

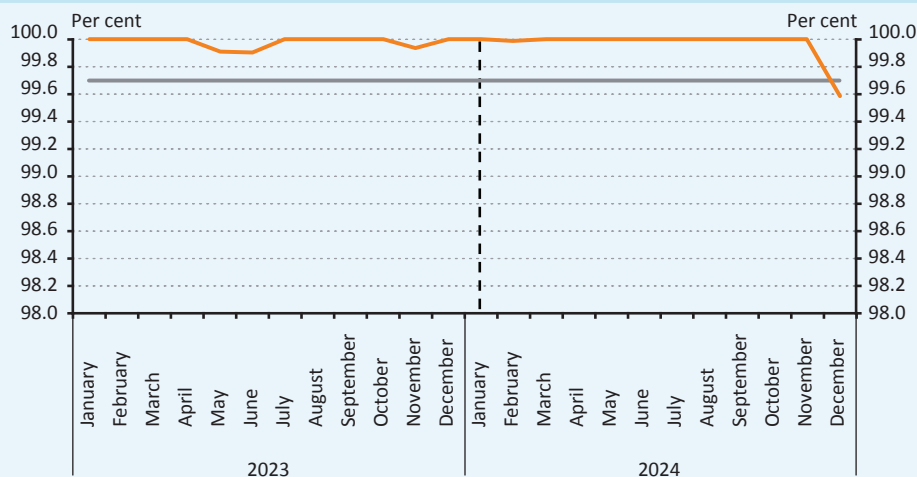
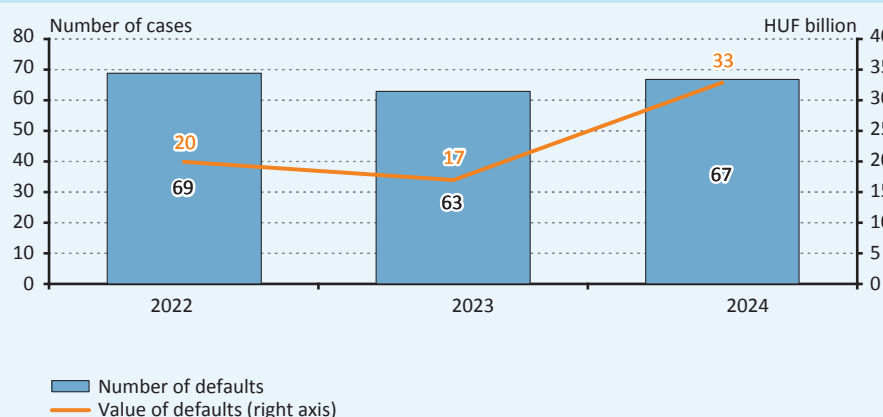


Chart 72
KELER CCP defaults (2022–2024)



specify the time at which the cash leg and the securities leg of transactions and the collateral assets required on the basis of open positions must be made available for customers on the settlement date. If that does not take place by the deadline, it is regarded as default on the part of the customer. This, however, does not automatically mean that an enforcement action is started, as KELER CCP's business rules allow for a maximum of four clearing days for performance in the capital market, in accordance with the SDR rules. In relation to cases of default in the capital markets, settlement occurred within four settlement days in all cases, and in most cases within one day. Consequently, late performance took place on the clearing date and no enforcement action was necessary. In 2024, there were 67 cases of securities side default relating to the capital markets, totalling around HUF 33 billion. The number of such cases increased 6 per cent year-on-year, while the amount involved increased by 99 per cent. The most common causes of defaults were other OTC counterparty defaults, principals' defaults and sub-clearing members' defaults. No default resulting in the initiation of multistep loss management occurred during the year.

3.7 CURRENT TOPICS IN FINANCIAL INFRASTRUCTURES

3.7.1 Change of Message Standards in VIBER

The transition of VIBER to the ISO 20022 standard progressed as planned in 2024, and therefore the changeover can take place on 27 October 2025. SWIFT will phase out the traditional ISO 15022 format for cross-border payments in three message categories in November 2025, replacing it with the ISO 20022³⁴ format. The MNB

is following SWIFT in this regard and will also implement the migration to the new ISO format for messages used in VIBER. The MNB, in cooperation with SWIFT, prepared the new MX standard in the framework of the VIBER MX standard change project, which was published for VIBER participants in December 2023. Since then the MNB has been making minor changes – that have been necessitated by tests carried out with KELER, GIRO and other participants of the system – in cooperation with system developers and SWIFT. The MX standard version of the VIBER Standard Book was published in 2024. It includes the process descriptions (showing the relationship between standard messages) and example messages. The MNB announced the launch date for the MX standard changeover and the testing schedule in April 2024. Information on important steps of the project and testing is being shared continuously, and the MNB coordinates and monitors the preparation of VIBER participants. The transition to the MX standard is scheduled for 27 October 2025.

3.7.2 Shortening of the Clearing Cycle in the EU Capital Markets

In line with the international trends, the European Union will introduce T+1 day settlement from 2027 in capital market settlements, thereby further increasing the speed of capital market clearing processes and also supporting even more efficient operation of the economy. The United States, as well as other countries including Canada and India, have already switched to the T+1 clearing cycle in recent years, therefore, the rest of the world, including the European Union, also started to look for ways of shortening the length of the clearing cycle. As a result the European Central Bank (ECB), the European Commission and the

³⁴ The most important change as a result of the introduction of ISO 20022 is that messages generated in accordance with the new standard will be in xml and messages in MX format in 1,2 and 9 message categories will replace the MT format distributed on SWIFT.

European Securities and Markets Authority (ESMA) issued a joint statement on 15 October 2024 that the EU will move to a T+1 settlement cycle. To ensure effective coordination, the parties have established a common central governance structure to manage implementation of the changeover; thus a Steering Board composed of ESMA, the ECB and the European Commission, and a body representing industry, have been launched. ESMA published an analysis in its report of 18 November 2024, of the need to shorten the securities clearing cycle and its potential impact on market participants, proposing a move to post-trading day settlement from October 2027. As a result of the analysis and in order to preserve the competitiveness of European securities markets the European Commission also decided to propose to change the settlement date for transactions in transferable securities on trading venues from the second business day after the trading day to the first business day. Thus, on 11 October 2027, the EU, including Hungary, will have to switch to the T+1 settlement cycle.

The first steps of the European regulation required for the introduction of shorter settlement cycles have been completed, however, the technical details are still being worked out. On 12 February 2025, the European Commission published its proposal for a shortening of the smoothing cycle for the CSDR.³⁵ The amendment of

EU Regulation No 2018/1229 (CSDR RTS), for which ESMA will submit a proposal is the next significant step. The new CSDR RTS is expected to stipulate shorter allocation and confirmation deadlines, the mandatory use of open communication solutions, and other technological solutions that increase settlement efficiency.

Shortening the settlement cycle in European securities markets from two days (T+2) to one day (T+1) is a challenge for market participants as well.

Shortening the settlement cycle provides significant benefits to investors (buyers receive the securities, sellers get their money a day earlier, settlement risks are reduced, collaterals to be provided are reduced), on the one hand. While on the other hand, it reduces the time available to post-trade infrastructures and other service providers between the time a transaction is concluded on the exchange and the time it is settled. Accordingly, switching to T+1 has a significant impact on all securities market participants. In its supervisory and financial infrastructure developing and controlling roles, the MNB will monitor and assess the level of the market's readiness for switching to T+1. The MNB aims to avoid any possible negative effect of the T+1 changeover as far as possible, while allowing the Hungarian market to benefit, as much as possible, from the benefits.

³⁵ Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU)

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