

# Payment Habits and Instant Payment Systems in the V4 Countries\*

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*The study examines payment habits and instant payment systems in the Visegrád Four (V4) countries using a comparative analysis of secondary data. The authors identify the factors that influence household payment habits and the operational parameters of the instant payment systems in the V4. Based on the information thus identified, the similarities and differences between these countries and the reasons behind such are explored. Both quantitative and qualitative data are examined for the purposes of the summative evaluation, which concludes that the main reasons for cash payments are the lack of electronic payment options in certain payment situations, as well as the power of personal preferences and habits. Below a certain limit, the transfer is automatically instant in Hungary and does not entail any extra costs, while in the other three countries, instant transfer is optional and subject to a surcharge. Financial institutions and regulators play a key role in shaping household payment habits and enhancing instant payment systems.*

**Journal of Economic Literature (JEL) codes:** E42, F30, G28, G40, O33

**Keywords:** payment habits, electronic payment, instant payment system, V4 countries

## 1. Introduction

The existence of instant payment systems (IPS) is becoming increasingly important in today's fast-paced world, as these payment systems not only process transactions in a matter of seconds, but also at a lower cost than the existing real-time gross settlement systems. The possibilities offered by instant payment systems can encourage consumers to make transactions electronically (in the form of credit transfers) instead of using cash. However, many other factors (e.g. technical conditions and personal preferences) can influence household payment habits,

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and financial institutions and regulators play a key role in shaping these factors; this study does not cover the latter aspect.

The research focuses on the Visegrád Four (V4) countries, i.e. the Czech Republic, Poland, Hungary and Slovakia. These countries in Central and Eastern Europe have a similar level of economic development and geography, and are linked by numerous historical and cultural ties. This also influences the evolution of their economic institutions, policies and preferences.

The primary objective is to provide a comparative analysis of payment habits and instant payment systems in the V4 countries, using the results of previous research. First, we attempt to identify the factors that influence household payment habits in each country and the operational aspects of their instant payment systems. In answering the research questions, we explore the similarities and differences between the countries and the reasons behind them. When analysing the differences between individual countries of the V4, certain distortion effects (e.g. different payment system and taxation backgrounds, levels of economic development) may arise, which are not discussed in this study. However, in our view, the low level of individual distortions is still acceptable for the purposes of our findings.

In our summative evaluation research, we review the major national and international literature, examining both quantitative and qualitative data. Payment habits in the V4 countries were primarily analysed based on a representative survey by EVO Group member eService and REVO – MMB Platební Služby, which covered, among others, Central European countries and conducted a separate survey for each individual country in 2022 (*eService 2022a, 2022b, 2022c; REVO 2022*). The primary objective of this international research was to investigate the population's attitude towards different payment methods in certain payment situations. Reports published by the respective central banks of the V4 countries constituted the primary source for the analysis of instant payment systems. We also used information from the websites of the companies operating or providing the technical background for payment systems in each country, as well as relevant communications from the European Central Bank (ECB) and the European Payments Council (EPC).

By understanding cash payment preferences and the state of electronic payment options, targeted measures can be taken to discourage cash payments and encourage electronic payment options, which may assist in reducing the shadow economy. The aggregation of operational parameters related to instant payment systems also highlights the opportunities to improve customer experience. This may increase the use of the system and hence speed up economic processes.

## 2. Literature review

### 2.1. Factors influencing payment habits among companies and households

Market behaviour and trading practices are influenced by regulations intended to facilitate market safety and transparency (Friesz – Váradi 2019). The compelling impact of the pandemic and the response to central and government measures have led society to make a significant step towards the greater use of digital payment systems (Farkas et al. 2022). The benefits of technological innovation were first perceived in the banking sector. Financial institutions using online banking or e-banking have a competitive advantage over those offering only traditional banking services, as their customers can carry out certain banking transactions without the cost of visiting the bank in person (Tömöri – Hamad 2022).

However, the payment habits of companies and households are shaped by several factors. In business circles, a distinction is basically made between retailers and corporations. The difference is that while retailers prefer cash-intensive and card payment solutions, corporations prefer other electronic payment methods (e.g. credit transfers). According to Leinonen (2008), the most important consideration for retailers when choosing a payment method is the speed (real-time) and simplicity of the technology chosen. Based on a study by Gresvik and Haare (2008), the share of cash payments in Nordic countries has been below 50 per cent for many years. In fact, the Danish Payments Council (2019), which analyses Danish companies from a business-to-business (B2B) perspective, does not even include cash transactions, so negligible is their share.

The two main drivers of card acceptance by Hungarian enterprises are the size of the companies (Ilyés and Varga 2018) and the diverging levels of development in different parts of the country (Kajdi – Nemeckó 2020). The majority of B2B transactions still take the form of credit transfers, but cash payments are also present, reflecting initial mistrust (Bódi-Schubert 2014) and adherence to well-established habits (Belházyné Illés et al. 2018). Deák et al. (2021a) analysed the online cash register (OCR) database provided by the National Tax and Customs Administration of Hungary (NTCA) and data from a questionnaire survey conducted by Kutatópont Kft. Based on the data, only 3 per cent of retailers have more than 2 sales units, while the corresponding value is around 9 per cent for corporations. The study also found that 71 per cent of retailers and 40 per cent of companies provided an option for card payment. When asked why they did not offer a card payment option, the most common answer from non-retail companies was that customers did not demand that option. This confirms the claim that the most common payment method among corporations is bank transfer.

Costs associated with banking and POS<sup>1</sup> terminals are also an important factor for companies and retailers. Some retailers also cited the low speed of card payments. According to *Deák et al. (2021a)*, there is a significant correlation between firm size and card acquiring propensity, and – as is the case with firm size – the likelihood of card acquiring increases with the number of sales units. The method of wage payment also influences the prevalence of card acquiring: where wages are paid by bank transfer, the card payment option is more likely to be offered than in the case of companies where wages are paid in cash. Although *Deák et al. (2021a)* conducted their survey before the introduction of the Hungarian IPS, the authors also formulated questions regarding the above in their questionnaire survey. These questions revealed that while retailers valued real-time payments, 68 per cent of them reported that the cost of implementing and applying IPS was the most important aspect, while only 18 per cent of retailers prioritised instant execution.

Many factors, such as age, income, employment status and education, play a role in the evolution of household payment patterns (*Deák et al. 2022b*). The influence of other sociodemographic dimensions is beyond the scope of this research, and thus we do not intend to explore these in depth. Such factors include different personal and technical conditions related to payment methods (*Szobonya 2021*) or preferences resulting from intergenerational gaps (*Agárdi – Alt 2021*). The technical requirements are banking and internet coverage in the country concerned and access to digital tools. In Hungary, all three indicators are considered adequate: 89 per cent of the country has internet access, 83.5 per cent of the population reported owning a smart device and payment systems are available even in smaller settlements through the digital services of banks (*Szobonya 2021*). The rise of BigTech and FinTech companies has also affected consumers' expectations when choosing a payment method: customer experience has become the main criterion for decision-making (*Póta – Becsky-Nagy 2022; Deák et al. 2021b*).

Financial inclusion is also influenced by personal conditions such as the existence of digital skills or financial literacy. *Szobonya (2021)* compared the level of financial literacy to the corresponding data of the 2010 OECD survey, which indicated that Hungarians had the level of financial literacy expected by the OECD (69 per cent); however, according to the 2015 survey – also conducted by the OECD – only 40 per cent of Hungarians reached the expected lower threshold (71 per cent). The values measured distinguished between skills in different financial areas. While the Hungarian population scored a high 77.09 and 75.97 per cent in the areas of lending and digital finance, respectively, it scored only 56.31 per cent for savings. This is not surprising, as according to recent statistics, in 2023 only 20 per cent of the total population has at least HUF 0.5 million in savings (*OTP Bank 2023*).

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<sup>1</sup> Point of sale

Agárdi and Alt (2021) pointed out that preference differences arising from generational gaps had a major impact on the acceptance of FinTech tools. The research shows that for generation X (those born between 1965 and 1979), the simplicity of mobile wallets is far more important than their usefulness. The potential risks associated with mobile wallets also have a greater impact on this generation. According to Agárdi and Alt (2021), for generation Z (those born between 1995 and 2010), the perceived experience is less significant than for generation X. Instead, perceived compatibility is more important for generation Z as indeed, this age group sees mobile phones as “problem-solving devices”.

## 2.2. The role of instant payment systems

As demonstrated in the previous subsection, with the spread of digitalisation cash payments are increasingly taking a back seat to other payment methods, such as debit cards, instant payment systems, various mobile wallets and central bank digital currency. The Covid-19 pandemic also made a significant contribution to the declining share of cash payments: during that period, one of the most obvious solutions to the problems that the sector faced and that needed to be avoided was the application of contactless, electronic financial services, which led to a sharp increase in the volume of online sales (Deák et al. 2021c).

Instant payment systems are modern, digital financial clearing systems that take advantage of 21st century technology to complete electronic (cashless) transactions in the shortest possible time, 365 days a year, 24 hours a day. In the March 2024 issue of the BIS Quarterly Review, Frost et al. (2024: p. 44) used the following wording: “real-time or near real-time transfers of funds between accounts of end users (private individuals, businesses, public institutions) are as close to a 24 hour per day and seven days per week basis as possible”, making the operation of the economy easier and faster in an increasingly fast-paced world. This is why all countries strive to implement a well-functioning instant payment system, because without it the national economy may come to a standstill or may even be excluded from future innovations, in short: it will become less competitive.

Within instant payment systems, we distinguish between interbank, B2B and P2P (peer-to-peer) systems (Hyman 2023). A typical interbank instant payment system is the Hungarian RTGS<sup>2</sup> (Hungarian abbreviation: VIBER). As its name implies, an IPS basically completes transactions in seconds for B2B, P2P and interbank transactions. The exception to this is when the transaction is carried out by an automated clearing house connected to the VIBER system, where the funds transferred may take several days to be made available. VIBER is typically used for large interbank credit transfers<sup>3</sup> (Daugherty 2024) and is thus mainly used by larger companies

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<sup>2</sup> Real-time Gross Settlement

<sup>3</sup> Large-value payment system – LVPS

and public authorities. P2P instant payment systems are more widespread among the general public.

In Hungary, with the introduction of the IPS, electronic credit transfers under a given limit are also settled within a few seconds at any time of the day, on any day of the year (*MNB 2023a*). Besides the IPS, the other big competitor to cash payments remains card payments. While the share of cash payments has declined from 77 per cent to just under 70 per cent over the past 10 years, the share of bank card transactions has increased from 4.7 per cent to nearly 19 per cent, rising by almost 15 percentage points (*Deák et al. 2022a*). Accordingly, cash transactions still account for the bulk of Hungarian payment transactions and, despite exhibiting a declining trend, are still very substantial.

### 3. Data and methodology

As indicated above, in the context of our summative evaluation research we conduct a comparative analysis of the payment habits and instant payment systems of the V4 countries, and evaluate their payment habits and instant payment systems based on the results of previous research. We analyse the payment habits of the countries under review from the perspective of households only.

Payment habits in the V4 countries were primarily analysed based on the 2022 research conducted by EVO Group member eService and REVO – MMB Platební Služby. The primary objective of this international survey was to explore the population's attitude towards different payment methods in certain payment situations. The survey was conducted using the Computer Assisted Web Interview (CAWI) method, which means that participants completed the questionnaire online using a computer. For Poland and Hungary, we also used the representative studies *Payment habits in Poland in 2020* and *Payment habits of Hungarian households in 2020* (*NBP 2022; Deák et al. 2021b*), which are available on the respective central bank websites, to provide a more comprehensive view of payment habits among households in those two countries. The study in Poland was based on the Computer Assisted Personal Interview (CAPI) method, i.e. the questionnaires were completed by computer with personal assistance. In the case of Hungary, the questionnaire for the payment habits survey was completed by personal interview. An important part of the research conducted by the central banks of Poland and Hungary is the so-called payment diary kept by the participants. Participants were required to record all transactions concluded, detailing the value of the transaction and the method of payment.

The reports prepared and published by the central banks of the V4 countries also served as primary sources for the analysis of instant payment systems; however, we also researched the websites of a number of other companies that typically operate or provide the technical background for the payment systems in the country concerned. For Slovakia, we also used the ECB and EPC websites, as the systems applied in Slovakia as a euro area member state are, in some cases, developments of the ECB or the EPC and therefore, more information was available on these websites.

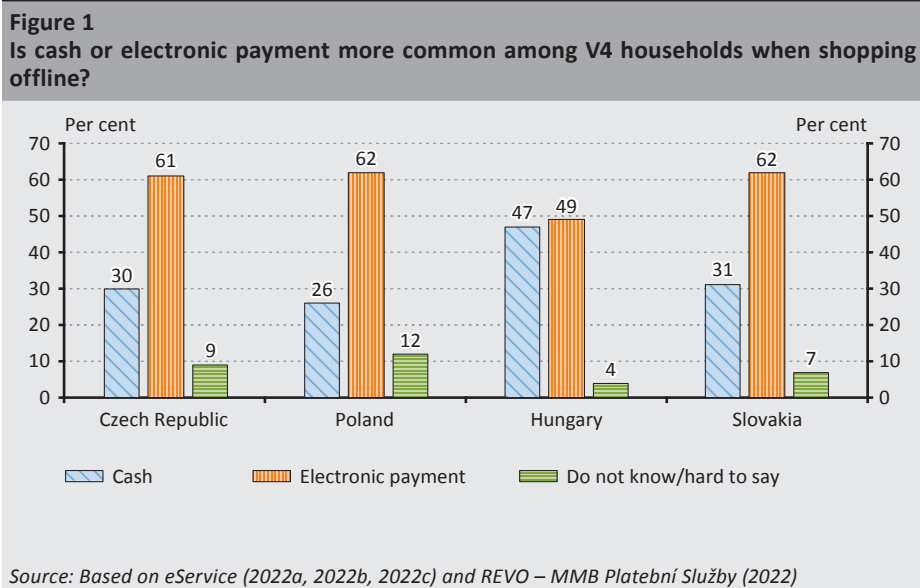
The influence of distorting factors is also discussed in our study. In our view, the level of distortion is not so high as to render our findings irrelevant.

## 4. Analysis and results

### 4.1. Comparative analysis of payment habits in V4 countries

In the comparative analysis of payment habits, we examine which payment methods were most preferred by households in V4 countries, and in which cases they preferred to pay electronically or in cash. The factors influencing cash or electronic payments are distinguished and presented in terms of physical factors (availability of infrastructure) and personal perceptions.

Figure 1 summarises the results of the 2022 representative survey of eService 2022 by country. The survey was designed to determine whether the individual countries preferred cash or electronic payment for offline purchases.



Consumers in the Czech Republic, Poland and Slovakia prefer electronic payments by far, while in Hungary the two payment methods are almost equally popular for offline payments.

Across the V4 countries, no significant differences were observed as to the situations in which individuals were more likely to use electronic or cash payments. In all four countries, online shopping, paying at pharmacies and petrol stations, and travelling abroad were the most often cited situations in which electronic payment was preferred.

It can be said that the Covid-19 pandemic had a compelling effect on the spread of electronic payment options. In this context, the majority of people in all four countries agreed that the number of places where electronic payments were accepted had increased compared to the pre-pandemic period.

By contrast, consumers are most likely to pay in cash when shopping at the market, paying a hairdresser or a doctor, paying for taxi trips/public transport, paying builders or paying for home repairs. The results of the survey show that the cases in which consumers are most likely to pay in cash coincide with the cases in which electronic payment is not available. It is also common in the V4 countries that giving money as a gift usually occurs in the form of cash. However, this certainly cannot be attributed to the lack of electronic payment options, but rather to habits.

Inadequate availability of electronic payment solutions may hinder the reduction of cash payments. This also suggests that the widespread provision and modernisation of electronic payment solutions would contribute to reducing cash payments. Besides physical conditions, individual preferences behind the choice of cash and electronic payment methods should also be highlighted. However, in all four countries, the reason for using cash was overwhelmingly based on the lack of other options. In addition, being used to handling money and liking it were also cited as arguments for the preference for using cash.

Convenience and comfort were the most frequently cited reasons for countries' preference for electronic payment, but speed (saving time) and ease of use were also arguments in favour.

One form of electronic payment is credit transfer. The customer experience associated with it is strongly influenced by the operational characteristics of the instant payment system available. The faster, more convenient and cheaper the instant payment system is, the better the customer experience, which may encourage consumers to perform their transactions electronically (in the form of a credit transfer), instead of in cash. However, the fees associated with instant payment systems may be influenced not only by the system operator but also by the bank's pricing. This is explained in detail in the subsection below.



## 4.2. Comparative analysis of the instant payment system of V4 countries

In our study, we conduct a comparative analysis of the instant payment systems of V4 countries, focusing on operational characteristics, transaction limits and fees, and transaction numbers. However, we do not address the distortions arising from market forces and different levels of regulation and development.

Table 1 shows a comparison of the instant payment systems in each country according to their operational parameters. Poland introduced two systems in 2012 (Express Elixir and BlueCash), which have been running in parallel ever since, but Express Elixir handles significantly more transactions. Slovakia was the last of the four countries to introduce an IPS, with a lag of 10 years. The Polish systems are the slowest in terms of the speed of credit transfers (120 and 15 seconds, respectively). The processing speed of instant payment systems in the rest of the countries ranges between 3 and 5 seconds.

	Czech Republic	Poland		Hungary	Slovakia
	CERTIS	Express Elixir	BlueCash	Hungarian IPS/ GIROInstant	TIPS/ SCT Inst
Year of introduction	2018	2012	2012	2020	2022
Speed of transfers (sec)	<3	<120	<15	<5	<5
Obligation for banks to join	No	No	No	Yes	No
Instant execution of transactions	Optional under limit	Optional under limit		Automatic under limit	Optional under limit
Limit (thousand HUF) *	≈ 39,250 (2,500k CZK)	≈ 9,210/23,033 (100/250k PLN)	≈ 1,823 (20k PLN)	20,000	≈ 39,698 (100k EUR)
System usage fees	1.59 HUF/ transaction (CZK 0.10)	Typically a few PLN/ transaction		<11 HUF/ transaction	0.79 HUF/ transaction (0.002 EUR)
Payer of system usage fees	Banks, per transaction (there are discounts)	Banks when joining, then client per transaction (there are discounts)		Banks (clients cannot be charged)	Banks (sender and receiver, 50% each)
Number of transactions per capita (2022)	16.86	6.19	0.39	19.27	5.28

*Note: CERTIS: Czech Express Real Time Interbank Settlement system, SCT Inst: SEPA Instant Credit Transfer. \* Currencies were converted into forint at the MNB mid-rate quoted on 25 March 2024.*

*Source: Edited based on CNB (2022, 2023a, 2023b); KIR (2023a, 2023b, 2024); Citi Handlowy (2023); Autopay S.A. (2023); Łodyga (2021); MNB (2023a, 2023b, 2024); NBS (2022, 2023a, 2023b); Gand (2022); ECB (2024); EPC (2023); GIRO (2024); HCSO (2023); Statista (2024)*

For banks, it is optional to join the instant payment system in all countries. In Hungary, all commercial banks are required to enable instant payments. The immediacy of the transaction is subject to a limit in all four countries. The limit is the lowest for BlueCash in Poland and the highest for TIPS used in Slovakia. In Hungary, transactions below the limit are automatically instant (accordingly, a significant proportion of credit transfers are processed instantly), while in other countries this is optional.

Instant execution is typically subject to surcharges; therefore, higher limits do not always contribute to higher instant transaction numbers. These charges are typically borne by the banks. In the Czech Republic, there is a per-transaction fee (CZK 0.10), but there is a discount depending on the number of transactions. In Poland, banks pay a fee to join the IPS system and then set the price of the instant service for their customers individually, which usually costs only a few zlotys (some banks offer free instant credit transfers for this every month). It should also be noted that the instant mobile payments of the Polish BLIK P2P are free of charge. In Hungary, banks are not permitted to charge their customers a surcharge for instant payments, but they have to pay a fee for using the instant payment system in function of the value of the transaction. As regards Slovakia, the transaction fee for instant payments is split equally between the sender and the receiver bank.

	Czech Republic	Poland	Hungary	Slovakia
Earliest introduction		X		
Fastest transfer	X			
Obligation to join			X	
Instant execution is automatic below limit			X	
Cheapest for bank client			X	
Highest number of transactions per capita (2022)			X	

*Note: Based on Table 1*

As summarised in *Table 2*, Poland was the first country to introduce an instant payment system in 2012, while the fastest transfer speed (3 seconds) was observed in the Czech Republic. The speed of the system contributes to a better customer experience, as well as speeding up payments and making settlements more convenient. It also contributes to improving the liquidity of businesses, as payments received can be used almost immediately (subject to a limit).

Banks' access to instant payment systems is mandatory only in Hungary, and is optional in the other countries under review. Competition between Hungarian banks is levelling out in this respect, as all commercial banks are required to provide an instant credit transfer facility to their customers. However, in the other three countries, joining the IPS may give banks a competitive advantage. In Hungary, transactions below the instant payment limit are automatically executed immediately, while in the other three countries this is optional and subject to a surcharge. Because of the fees associated with instant execution, a higher limit does not always contribute to a higher number of transactions. This has a very negative impact on the customer experience related to the IPS. It is also important to underline that it is only in Hungary that the payment of the fee for instant processing cannot be passed on to the customer; consequently, domestic bank customers do not perceive any difference between the cost of instant and traditional credit transfers. In the other three V4 countries, the customer typically pays the extra cost of instant payment per transaction. It should be noted that in the Czech Republic and Poland there are discounts depending on the bank account package, while in Slovakia the cost of an instant transfer is split 50/50 between the payer and the beneficiary. Probably due to the mandatory bank connection, automatic instant credit transfers under the limit, the free nature of instant access and the compelling effect of the Covid-19 pandemic, Hungary had the highest number of transactions per capita in 2022. In addition, a number of other factors can influence the number of transactions per capita, such as digital financial preferences, the availability of mobile apps for making transfers, and the availability of instant payment options at retailers and utility companies. The influence of these factors is not examined in this study. In addition to the above, we have not taken into account certain distortion effects – such as different monetary and fiscal backgrounds, level of economic development, etc. – when analysing the similarities and differences of V4 countries. However, in our view, the low level of individual distortions is still acceptable for the purposes of our findings.

### **4.3. Factors affecting the payment habits of households**

The distortion due to differences in the populations of the countries was eliminated by determining the per capita number of transactions. The indicator is the highest in Hungary, which may indicate the widespread use of the system, but may be distorted by the impact of the Covid-19 pandemic that coincided with the introduction of the Hungarian IPS, which encouraged electronic payments. Another distortion effect may be due to the fact that it is only in Hungary that bank customers do not incur a surcharge for instant credit transfers, as the fee for instant transactions cannot be charged to the customer in Hungary. In the other three countries, the option of instant payment and the surcharges associated with it may not always make the use of instant payments more popular than traditional transfers.

Table 3 summarises the factors influencing household payment patterns based on the literature reviewed and the results of our secondary research. In addition, we summarise the countries that stand out in terms of each operational parameter.

<b>Table 3</b>	
<b>Factors affecting the payment habits of households</b>	
<b>Based on the literature review</b>	<b>Based on secondary research</b>
Personal conditions (financial and digital competences)	<i>Not covered by secondary research</i>
Technical conditions (bank and internet coverage)	Technical conditions (option of electronic payment)
Generational preferences (risk vs. compatibility)	Personal preferences (payment situation, individual perception)

*Source: Based on Szobonya (2021); Agárdi – Alt (2021); eService (2022a, 2022b, 2022c); REVO – MMB Platební Služby (2022)*

In terms of the influencing factors discussed in the literature review, financial and digital literacy and technical conditions are the most important factors in the choice of payment method among the general public. The influence of generational gaps should be highlighted, with generation X focusing on the convenience and security of payment methods, while generation Z focuses on their usefulness and perceived compatibility. The personal conditions defined in the literature are not addressed in this study. Based on the results of the 2022 representative surveys of eService for each country, the physical possibility of electronic payment emerged as a technical condition shaping the payment habits of the population, while personal preferences were more strongly influenced by payment situation and individual perception.

Regional and local regulations play a key role in discouraging cash payments and encouraging electronic payments. Several actions have already been taken in this area. For example, under the EU cash limit in the countries surveyed, cash payments are only permitted up to a certain amount (ECCG 2024). A Hungarian example is the obligation for retailers to provide electronic payment options in relation to online cash registers,<sup>4</sup> and in the area of bank card payments, the impact of the regulation of interchange fees (Kajdi – Kiss 2021) should be highlighted.

## 5. Summary and conclusions

The relevance of the research is that in an increasingly fast-paced world, the introduction of instant payment systems is of paramount importance for national economies to speed up economic transactions. At the same time, there has been

<sup>4</sup> NGM Decree No. 48/2013 (XI. 15.) of the Minister for National Economy on the technical requirements of cash registers, the marketing, use and servicing of cash registers used for issuing receipts, and the reporting of data recorded by cash registers to the tax authority

a shift towards prioritising electronic payments, i.e. the targeted development of consumer payment preferences.

In our study, we reviewed key national and international literature. In answering the research questions, we explored the similarities and differences between the countries under review and their reasons, as well as the emerging distortion effects. In our view, the level of individual distortions is still acceptable for the purposes of our findings.

Our primary objective was to compare and analyse payment habits and instant payment systems in the V4 countries and to identify the factors that influence payment habits among households and the operational aspects at work in the countries under review.

The study examined both quantitative and qualitative data. We explored preferences for cash payments and the state of electronic payment options. We found that in three of the V4 countries – Poland, the Czech Republic and Slovakia – electronic payments were highly preferred, while in Hungary, cash and electronic payments were both preferred, in almost equal proportions, for offline payments. We also pointed out that the main reason for cash transactions in the V4 countries is the lack of electronic payment options in certain payment situations. In addition, personal preferences and habits are also important determinants. A notable example of the latter is giving money as gift, which is common in all four countries under review even though this could probably be done electronically.

In an increasingly fast-paced world, the introduction of instant payment systems for national economies is of paramount importance for the settlement of economic transactions. It can be seen that all four countries under review have an instant payment system in place. The customer experience associated with it is strongly influenced by the characteristics of the system's operation. In our research, we summarised and evaluated the operational parameters of each IPS system. Poland has the longest history of instant payments, while the Czech Republic has the fastest transfer speed. Hungary's instant payment system stands out because it is mandatory for banks to join, payments are automatically instant below a limit, it is the cheapest system for the customer and the Hungarian IPS features the highest number of per capita transactions. Below a certain limit, the instant execution of credit transfers is automatic in Hungary and does not involve any additional costs for bank customers compared to traditional transfers. By contrast, in the other three countries, the instant execution of the transaction is optional and subject to the payment of certain surcharges.

We found that the lack of availability of electronic payment solutions could be a barrier to reducing cash payments, and for instant payment systems, the faster, more convenient and cheaper the system was, the better the customer experience,

which may encourage consumers to conduct transactions electronically rather than in cash. Regional and national regulations have a key role to play in improving the system, and targeted action by financial institutions and regulators can discourage cash use and encourage electronic payments, which may assist in reducing the shadow economy.

Our conclusion is that, in view of the above, financial institutions and regulators may take targeted measures to discourage cash payments and encourage electronic payments and hence facilitate reducing the shadow economy. Aggregation of the operational parameters related to instant payment systems (fees, limits, optionality, etc.) highlights the potential for enhancing the customer experience, thereby increasing the use of the system and accelerating economic processes.

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