

CASHLESS PAYMENTS IN BULGARIA - DEVELOPMENT, REGULATION AND INTEGRATION INTO THE EURO AREA

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Abstract: *The main objective of this study is to present an analysis of selected indicators of cashless payments in Bulgaria. The main activities in the process of integration to the euro area as well as changes in regulations at the EU level are examined. The main thesis is that non-cash payments are continuously increasing, both in number and in total value, due to technological changes, the development of EU regulations, as well as the integration of the Bulgarian payment infrastructure to that of the euro area. The number of credit cards as well as POS terminals has increased significantly. The number of credit transfers and card payments increased several times, with positive dynamics also characterising payments initiated via the Internet through both instruments. Similarly, the total value of payments is also developing and the trend is expected to continue in the future.*

Keywords: *(payment systems, central banks, technological change)*

JEL: *E42, E58, O33 (according to <https://www.aeaweb.org/econlit/jelCodes.php>)*

1. Introduction

Cashless payments and technological change can reduce transaction costs and increase efficiency in the economy. Other things being equal, these factors lead to lower inflation in the long run. This study focuses on cashless payments in Bulgaria. It examines some key payment indicators and their dynamics for the period 2014-2022, as well as payment policy decisions and actions. The main source of information is BNB statistics on cashless payments. The study is entirely empirical, and includes policy and regulatory development issues.

The main hypothesis is that non-cash payments are continuously increasing, both in number and in total value, due to technological changes, the development of EU regulations, as well as the integration of the Bulgarian payment infrastructure with that of the euro area .

The study is structured in several main parts - introduction, research on payments, analysis of key payment indicators, actions taken by the BNB to integrate the payment infrastructure with that in the euro area, brief overview of pending changes in regulations, conclusion.

2. Studies on the development of payments

A number of studies can be pointed to that examine the development and impact of cashless payments. The impact of cashless payments on economic growth is discussed in (Tee and Ong, 2016, pp.1-9). The authors present the effects of the introduction of cashless payments in 5 EU

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countries between 2000 and 2012. Their conclusion is that in the short run the introduction of one type of cashless payment affects another type of cashless payment. The impact of payments on economic growth can be observed in the long run, i.e. the effects of the introduction of such payments are not immediately reflected.

The relationship between payments and economic growth over the period 2005-2018 is also explored in (Grzelczak and Pastusiak, 2020, pp. 33-46). Countries are divided into two main groups (CEE and Western Europe) and some differences between the groups are pointed out. The role and influence of e-money instruments is growing in Western European countries. The positive relationship between cashless payments and real GDP per capita is stronger in Western European countries.

The impact of the COVID-19 pandemic on the choice between cash and cashless payments is studied in (Kotkowski and Polasik, 2021, pp. 1-9). The authors carried out a survey of 5000 individuals from 22 EU countries. It shows a clear distinction in payment habits, which deepened during the pandemic. Consumers with preferences for cashless payments exacerbated them further due to the pandemic. Consumers who mainly pay in cash tend to do so despite the pandemic. This may also be due to financial inclusion issues. Country-specific factors play a significant role in increasing the likelihood of more cashless payments as a result of the pandemic.

An attempt to identify the impact of cashless payments on inflation in Indonesia is made in (Titalessy, 2020, pp. 524-532). The author examined the impact of different types of non-cash payments, and found no impact on inflation for debit and credit card transactions. E-money instruments play a statistically significant role in reducing inflation.

3. Key indicators for the development of cashless payments

The analysis of payments uses key payment indicators published by the BNB.

Table 1 shows the dynamics of the number of cards and terminals for the period 2014-2022.

Table 1. Number of cards and terminals

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Debit cards (thousands)	6 286	6 206	6 280	6 390	6 189	6 218	6 257	6 384	6 491
Credit cards (thousands)	938	944	1 216	1 148	1 240	1 244	1 175	1 304	1 327
ATM	5 615	5 616	5 751	5 731	5 604	5 614	5 400	5 250	4 977
POS	75 623	81 513	86 663	91 518	95 408	101 738	102 988	111 346	124 082

Source. BNB

The number of debit cards remains relatively constant, only 3.3% higher in 2022 than in 2014. The COVID-19 pandemic is not impacting this indicator. It is to some extent related to the availability of payments, as cash is often withdrawn from debit cards. The number of debit cards is lower in the period to 2015-2020 than in 2014, but has recovered in the last two years.

The number of credit cards that are more linked to cashless payments increased significantly over the period, with a 41.5% increase in 2022 compared to 2014. This is a clear indicator of increasing cashless payments. During the 2020 pandemic, there is a decrease in the number of credit cards from the previous year, which may be related to difficulties in reissuing and obtaining them.

There is a clear downward trend in ATM terminals, with 11.4% fewer terminals in 2022 than in 2014. In addition to the direct link to cash withdrawals, processes of optimisation of their number by financial institutions, including due to processes of consolidation in this sector, may also have an impact. In 2020, the number of ATMs is declining, but no direct link can be made to the pandemic.

An indicator of the growing role of cashless payments is the number of POS, which increased by 64% between 2014 and 2022. The highest growth is seen in the years after the pandemic 2020, which is also related to the accelerated adoption of technology during this period.

Table 2. Number of credit transfers (million)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Credit transfers (ordered)	192.5	219.7	243.2	254.9	295.6	258.0	288.1	332.3	370.0
Transfers in Bulgaria	191.1	218.1	240.7	253.0	293.5	255.6	285.5	327.7	365.3
Transfers to other countries	1.4	1.6	2.6	1.9	2.1	2.4	2.6	4.6	4.7
Initiated on paper	99.6	107.8	113.2	112.6	203.9	162.6	181.1	207.2	228.8
Initiated electronically	92.9	111.9	130.1	142.3	91.8	95.4	107	125.1	141.2

Source. BNB

The number of credit transfers (Table 2) almost doubled during the period under review, indicating the increasing role of this type of payment. Due to their lower initial value, the increase in remittances to other countries is the highest - almost 3.4 times. Paper-initiated transfers grew at a faster rate than electronically initiated transfers, which even declined in 2018. This is an indicator of the slower take-up of fully electronic services, which have nevertheless seen a steady increase over the last three years. After 2019, the indicators are steadily increasing.

Table 3. Total value of credit transfers (billion BGN)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Credit transfers (ordered)	650.9	740.9	800.3	731.9	783.5	789.8	745.8	900.7	1126.7
Transfers in Bulgaria	572.3	639.3	697.0	633.6	689.3	700.7	648.4	769.1	944.6
Transfers to other countries	78.7	101.6	103.2	98.3	94.2	89.1	97.4	131.6	182.1
Initiated on paper	275.0	256.1	246.0	257.5	304.7	333.1	272.7	304.2	340.4
Initiated electronically	375.9	484.8	554.2	474.4	478.7	456.6	473.1	596.5	786.3
GDP	84.1	89.6	95.3	102.7	109.9	120.3	120.5	139.0	167.8

Source. BNB

The total value of credit transfers increased by 73.1% over the period, with the main increase occurring in the last two years, during which it outpaced both nominal GDP growth and average annual inflation as measured by the HICP. For the entire period, GDP grew by 99.4%, credit

transfers by 73.1%, and electronically initiated transfers increased by 109.2%, outpacing the previous two indicators.

Table 4. Average value per transfer (BGN)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Credit transfers (ordered)	3381	3372	3291	2871	2651	3061	2589	2711	3045
Transfers in Bulgaria	2995	2931	2896	2504	2349	2741	2271	2347	2586
Transfers to other countries	56214	63500	39692	51737	44857	37125	37462	28609	38745
Initiated on paper	2761	2376	2173	2287	1494	2049	1506	1468	1488
Initiated electronically	4046	4332	4260	3334	5215	4786	4421	4768	5569

Source: BNB, own calculations

For most of the indicators presented in Table 4, there is a decrease in the average value per transfer, due to the larger increase in the number of transfers. A lower average value implies a higher degree of user involvement in this type of transaction. Only electronically initiated transfers showed an increase in average value of 37.6% over the period under review.

Table 5: Number of card payments (million)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Payments with cards issued by local companies	65.2	79.6	93.7	129.7	160.9	195.8	213.6	284.4	375.5
Card payments in Bulgaria	51.9	62.6	72.2	101.0	123.1	149.9	169.4	229.1	301.6
Card payments in other countries	13.3	17.1	21.5	28.7	37.8	45.8	44.2	55.3	73.9
Via a physical POS terminal device	51.6	64.5	77.2	108.0	133.4	165.7	182.8	236.7	305.9
Initiated remotely (via internet)	13.7	15.2	16.5	21.8	27.5	30.1	30.8	47.7	69.6

Source: BNB

The number of card payments issued by local payment service companies increased nearly 6-fold between 2014 and 2022 for almost all indicators considered. Only payments initiated via the internet increased slightly less, by a factor of 5.1, which is also very high. This development clearly shows the strongly increased role of cashless payments. Comparing the data in Tables 2 and 5, we can note that the number of card payments outpaces the number of credit transfers in 2022.

Table 6: Total value of card payments (billion BGN)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Payments with cards issued by local companies	4.5	5.5	6.2	8.3	10.2	11.9	12.6	17.8	24.9
Card payments in Bulgaria	3.1	3.7	4.1	5.6	6.7	8.0	9.0	12.7	17.5
Card payments in other countries	1.4	1.8	2.2	2.8	3.4	4.0	3.5	5.1	7.4
Via a physical POS terminal device	3.5	4.4	4.9	6.6	7.8	9.3	9.9	13.7	18.7
Initiated remotely (via internet)	1.0	1.1	1.3	1.8	2.4	2.6	2.7	4.1	6.2

Source: BNB

The total value of card payments increased more than 5 times during the period under review, with the largest increase in internet payments - 6.2 times. The years with the highest annual

growth rates are 2021 and 2022, during which it reaches between 35% and 52% for different indicators. The development of technology, cost optimisation and increasing supply of this type of payment services imply high growth rates in the coming years as well. We expect this trend to continue, both in the number of payments and their total value.

Table 7: Average card payment value (BGN)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Payments with cards issued by local companies	69.0	69.1	66.2	64.0	63.4	60.8	59.0	62.6	66.3
Card payments in Bulgaria	59.7	59.1	56.8	55.4	54.4	53.4	53.1	55.4	58.0
Card payments in other countries	105.3	105.3	102.3	97.6	89.9	87.3	79.2	92.2	100.1
Via a physical POS terminal device	67.8	68.2	63.5	61.1	58.5	56.1	54.2	57.9	61.1
Initiated remotely (via internet)	73.0	72.4	78.8	82.6	87.3	86.4	87.7	86.0	89.1

Source: BNB, own calculations

The average value per card payment decreased over the period under review for almost all indicators, with the exception of internet payments, which increased by 22%. Year-on-year decreases in these indicators are typical for the period 2016-2020, while increases are observed in 2021 and 2022.

4. Key activities in the process of integration into the euro area

In 2022 and 2023, a number of activities are being carried out to upgrade and develop the payment and settlement systems in Bulgaria.

First, the migration to the Eurosystem's new consolidated TARGET services platform took place in March 2023, marking the completion of a major project to consolidate the pre-existing TARGET2 payment system and TARGET2-Securities settlement platform. The TARGET platform is a fundamental financial market infrastructure of the euro area and provides access to several services simultaneously. The first is the real-time euro cash settlement service. The second service is the settlement of securities in euro through TARGET2-Securities (T2S), which offers pan-European settlement, both cash and securities, with money at a central bank. The third TARGET service is TIPS, which provides access to instant payments in euro.

Second, the Depository for Government Securities at the BNB and the Central Depository AD join the securities settlement platform TARGET2-Securities. On 11 September 2023, they migrate to T2S together with three other depositories from other European countries. Currently, depositories from 23 European countries use T2S, and participation in the platform already contributes to better accessibility of Bulgarian securities for European Union investors.

Third, the migration of budget payments to Single Euro Payments Area (SEPA) standards is finalised in early October 2023. This project is essential to prepare for the introduction of the euro in the country. The main objective is to implement SEPA standards with regard to the execution and processing of budget payments in BGN in the country, which will ultimately lead to an overall streamlining and acceleration of the budget banking process.

Fourth, the necessary actions are being taken to ensure full reachability for the execution of customer SEPA credit transfers in euro in the Single Euro Payments Area. In this way, more than 4 800 payment service providers in all SEPA countries will be reachable for the execution of credit transfers in euro. This will be achieved by implementing a pre-paid model with continuous settlement, which will also reduce the time to execute credit transfers in euro.

Fifthly, the project for the connection of the BISERA7-EUR payment system operated by BORICA AD to the Eurosystem's TIPS service for settlement of instant transfers in euro is also being developed, which will provide an opportunity for banks in the country to offer instant transfers in euro. The TIPS accession project can be seen as an upgrade of the euro-denominated instant payments. In addition, this project will ensure infrastructural readiness in the context of the expected changes to SEPA Regulation 260/2012, according to which payment service providers that execute customer credit transfers in euro will also be obliged to execute instant credit transfers in euro.

5. Developments in payments regulation.

Payment services have also developed rapidly in recent years due to the introduction of innovation and new technologies. This also requires corresponding changes in regulations at EU level, which are discussed in this part of the presentation.

In June 2023, new European payments legislation is proposed - a new PSD3 (Payment Services Directive 3) and PSR (Payment Services Regulation). The PSD3 proposal is largely based on the relevant texts of the current Second Payment Services Directive (PSD2) and the Electronic Money Directive (EMD) in terms of licensing and supervision requirements. PSD3 will thus build on and refine the provisions regarding the licensing and supervision of payment institutions. An important aspect of the PSD3 proposal is also the envisaged amendment of the Settlement Finality Directive (SFD) to give non-bank payment service providers direct access to all payment systems in the EU.

The PSR proposal regulates fundamental rights and obligations in the provision of payment services in the EU, including rules for the execution of payment transactions, liability for unauthorised or inaccurately executed payment transactions, open banking, transparency requirements and security requirements for payment transactions. Some key changes proposed by the PSR are the introduction of a dedicated interface for accessing payment accounts through open banking, as well as the possibility for users to manage their permissions to access their financial data through a so-called dashboard. There is also an obligation for payment service providers to carry out an additional matching check between the beneficiary of a credit transfer and the account number specified by the originator, which will further enhance the security of digital payments.

The PSD2 is a complex piece of European legislation which is based on the principle of "maximum harmonisation". In this context, the revision of this Directive has led to proposals to separate aspects into different legal acts in order to further develop and refine them. Among

the proposals for further regulations, the proposal for a Regulation on the Financial Data Access framework (FIDA) stands out. FIDA aims to build on the existing open banking framework, underlining the maturing of the financial services market in Europe. This complementary legislation will affect the effective management of data across the financial system by integrating information on all financial products so that it can be used by third parties to facilitate consumers and optimally meet their needs.

Currently, the licensing of payment institutions and electronic money companies, as well as the registration of account information service providers, are regulated by the Payment Services and Payment Systems Act (PSPSA) and related regulations. Following the successful finalisation of the new European legal framework - PSD3, PSR and FIDA, for which the BNB is actively partnering with the ECB and the EC on the practicalities of implementation, we can expect relevant changes to the PSDPA and the sub-regulations to refine the regulations and provide a better rules-based environment.

6. Conclusion

The indicators examined in the study demonstrate the clear trend towards an increase in cashless payments, which is expected to continue in the coming years due to our integration into the single payment area of the euro area and the development of technology. A number of projects to renew, develop and integrate payment and settlement systems are therefore also contributing. Changes in regulations are also aimed at ensuring more efficient and safer cashless payments.

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