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EFFECTS OF COVID-19 ON PAYMENT METHOD PREFERENCES OF POLES

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Abstract

Repeated payments create a certain habit in terms of the preferred payment method. Its formation stems from the simultaneous effect of a variety of factors, while its persistent character implies a difficulty in its change. The outbreak of the COVID-19 pandemic has influenced the terms of how society functions, thus affecting multiple spheres of people's lives, including making purchases and payments. The aim of this paper is to identify and present the multidimensional impact of the COVID-19 pandemic on payment method preferences of people in Poland. The results indicate that the COVID-19 pandemic has stimulated the shrinkage of cash exchanges while at the same time made the tendency to use cashless payment methods grow. Cash payments are a path for viral transmissions and, thus, a potential source of infection and viewing them as an unsafe payment method effected the turn to cashless forms of payment. It is important to note that this fact constitutes one of the most vital factors of the dynamic growth of the BLIK payment system - a multi-institutional cashless payment system, working independently of the present card-based systems in Poland. Based on the conducted study it can be stated that the COVID-19 pandemic significantly changed payment method preferences of the people in Poland, yet the permanence of those changes will only be possible to determine in a larger timeframe.

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Introduction

Needs are omnipresent in people's lives, and it can be said that they constitute an imminent part. Formation of needs gives an impulse to partake in different activities, including the activity of purchasing (Oliver, 2014). Satisfaction of needs is resolved by means of consumption, that being possible only when the consumer is in possession of a particular good. In the scenario of a need appearing and a consumer not being in possession of a good with the ability to satisfy that need, the consumer is forced to make a purchase of such a good (Bylok, 2016). A subsistent element of the process of purchasing is the monetary flow, being the payment, resolving the liability developed towards the vendor (Dmowski et al., 2008, pp. 29-31). Because of the constant flow of needs, the necessity of making purchases is characterized as repeatable and with it, the need of payment, which creates certain payment habits.

The understanding of payment habits is an incredibly important area of study of individual behavior (Lynch, 2011). Similarly, as in the instance of creation of any other consumer behavior, financial behavior, of which payment habits are a part of, stems simultaneously from the effect of many different factors and choices in a determined environment (Smyczek, 2010). It must be noted that payment habits have a relatively permanent character and are not subject to constant change (Van der Cruijsen et al., 2017).

The outbreak of the COVID-19 pandemic has been a wide-scale event and created a ubiquitous sense of uncertainty, which in effect, by changing the terms of the functioning of society, affected all aspects of life, including purchases and payments (Huterska et al., 2021). The restrictions on movement put in place, especially lockdowns, have accelerated the digitization of life and set a new standard for shopping (Hadasik & Kubiczek, 2022).

Thus, the outbreak of the pandemic naturally caused the rise of notable changes in the context of alternative payment methods, and so, a new research gap. That lack of knowledge, which this study is meant to alleviate, has been described as inadequate research into the effects of the COVID-19 pandemic on payment method preferences of people in Poland. The aim of this paper is to identify and present the multidimensional effect of the COVID-19 pandemic on payment habits. To achieve this aim, the following research questions have been posed:
1) What factors affect payment habits?
2) What used to be the payment habits of people in Poland?
3) Has the pandemic affected preferred payment methods? If so, in what capacity has it affected them?

Setting out the field of the study, together with formulating the research question, allowed us to define the framework of the study: the object being payment habits, the subject people in Poland, and the area of the study being the whole of Poland. In order to establish the impact of the COVID-19 pandemic on payment habits, the situation before and after its outbreak has been presented. Applied as research tools were analysis, literary criticism, and statistical analysis, using secondary data sources, particularly reports presenting financial behaviour of Poles.

Literature review

Payment habits and their determinants

The beginnings of payments can be traced back to barter trade, yet it was only the creation of the first monetary devices that unified payment methods in the aspect of money. Payment methods evolved together with forms of money – from the original forms of money (goods), through ores, cash, cashless forms, all the way up to digital money (Flejterski & Świecka, 2008). It must be noted that in the case of there being only a single form of payment, the decision maker has no alternative and thus will choose the single available form of payment.

Technological constraints constituted a limit to the development of other forms of payment competing with cash (Drehmann et al., 2002), yet in the modern, digitalised, world, the technology no longer sets a limit. Payments can be carried out in a multitude of ways, since different forms are accepted by sellers (Bech & Garratt, 2017). Repeated usage of a single form of payment, with it being carried out successfully, means that a habit appears, which in turn is characterised by relative permanence (Marzec et al., 2013). In the literature it is noted that payment habits cannot be changed in a short timespan (Van der Cruijsen et al., 2017, Liu et al., 2019).

Payment habits are one of the types of financial behaviours part of broadly understood economic behaviours (Lynch, 2011). Choosing the method of payment is a special case of making financial decisions. The sole choice itself, though, is treated by some researchers as one of the aspects of consumer behaviour, thus the decision process itself takes place on a macroeconomic backdrop, and the ultimate choice depends on individual characteristics (Smyczek, 2010).

The creation of payment habits is a slow process, the beginning of which takes place when making purchases even in one's younger years. Thus, it is justified to say that because of similar predispositions taking effect in the process of socialisation of a given generation, but also because of the permanence of payment

habits developed at that time, individuals from a given generation will be characterised by similar payment habits throughout their whole lives (Harasim, 2014). People growing up in the same technological surroundings are well acquainted with it, which results in them having certain digital skills. These skills negate the psychological barrier and allow for the usage of a given technology (Daragmeh et al., 2021). A confirmation of this thesis are also empirical studies, which show that payment habits are strongly connected to demographic characteristics (Van der Cruijsen & Plooij, 2018; Stavins, 2016; Koulayev et al., 2016). Among the main determinants of the decision process in the area of choosing a given form of payment, socio-economic factors are mentioned, including age, education, wealth, or area of employment (Harasim, 2014).

Analysing payment habits, cash, and card payments, together with their substitutivity, are mainly considered (Marzec et al., 2014). Furthermore, because of technological progress, the issue of mobile payments is increasingly considered, including the possibility of developing different payment markets (Klimontowicz, 2014). According to the International Trade Administration (2019), in Poland in June 2019, 12.1 million active mobile banking users were registered, which is 15% more than the previous year. Mobile banking is gaining popularity at a quicker pace than online banking.

In the given circumstances, including the availability of a given payment form, the decision maker chooses the method maximising their utility, depending on their preferences and skills. It must be noted that in the literature the utility of a given payment form is associated with convenience and minimisation of effort for the individual paying (Ostaszewski, 2013, p. 45).

Covid-19 and the preferred payment method

In recent years, developed countries have been experiencing a trend in the aspect of the shrinkage of share of payments taken up by cash (Caddy et al., 2020; Foster et al., 2020). Considering the dynamic of the process, one might say that it was notably slow in its nature, despite a growing number of places where multiple forms of payments were accepted (Bagnall et al., 2016, Laboure & Reid, 2020). Studies conducted in Poland in the first quarter of 2019, right before the beginning of the pandemic in the country, show that despite the development of payment methods and implementation of many innovations, cash payments constituted the majority of all payments (Polasik et al., 2020; Świecka et al., 2021).

This stems from the fact that in stable circumstances decision makers did not possess both rational and emotional reasons to change their default payment methods. However, the COVID-19 pandemic has disrupted hitherto patterns of reacting to outside stimulants and forced a change in behaviour going beyond the previously established patterns (Huterska et al., 2021). For those factors, the COVID-19 pandemic is believed to have been the most important factor influencing not only payment habits, but broadly understood financial and consumer behaviours, including spending, saving, incurring debt, or generally managing personal finances (Waliszewski & Warchlewska, 2021). The consequence of this being a perceived change in the approach towards household finances (Waliszewski, 2022). The impacts of the outbreak of the COVID-19 pandemic, and mainly the uncertainty regarding its scale and duration, have caused a need for the realignment of financial plans and a revision of expenditure priorities (Cathriné et al., 2020, pp. 1-20).

The influence exerted by the COVID-19 pandemic has had a dualistic nature. Firstly, by constituting a threat to life and health of the public, the pandemic has significantly boosted the trend of making online purchases, adding to the growth of e-commerce and payment platforms (Kubiczek et al., 2021). This was primarily due to the introduced lockdowns, which resulted in the digitization of operations (Kee et. al., 2021). Making purchases online takes place in different conditions than in brick-and-mortar establishments (Kim, 2020). Mainly, it must be noted that cashless payments are the cornerstone of online purchases (Polasik & Kuc, 2011). There do exist notable instances where the desire of making an online purchase, forces a cashless transaction (Schlossberger & Soldánová, 2022). For this reason, there has been an increase in online purchases, which in turn impacted the larger turn to cashless payments (Bhutta et al., 2020; Yue et al., 2020).

Another way through which the pandemic has impacted choosing payment methods was the fact that using cash was a transmission channel for the virus, thus constituting a potential source of infection. Because of that, cash has been viewed as dangerous, while society has taken up a variety of activities aimed at limiting the spread of the virus, resulting in a general turn to payments using cashless methods (Huterska et al., 2021). Additionally, there has been an increase in the number of transactions using cashless forms of payments, bank cards in particular (Brem et al., 2021). Furthermore, society has begun avoiding cash, using alternative, hitherto unused, forms of payments, since they limited contact with cash (Puriwat & Tripopsakul, 2021).

Payment habits of Poles –
the pre-pandemic situation

Discussing current payment habits in Poland and the change caused by the COVID-19 pandemic must be conducted by following the process of changes in the used forms of payments happening in the span of the last years. Between 2011 and 2012 amongst adult Poles 77% owned a bank account, 66% owned a bank card, of whom 95% used their cards actively (Koźliński, 2013). The most basic requirement of using a debit card to pay without cash is owning a bank account. Between 2013 and 2016 the number of opened bank accounts has been increasing every year, with a simultaneous increase in cash in circulation (Fig. 1).

Figure 1: Number of opened personal bank accounts in relation to cash in circulation in Poland, 2013-2016
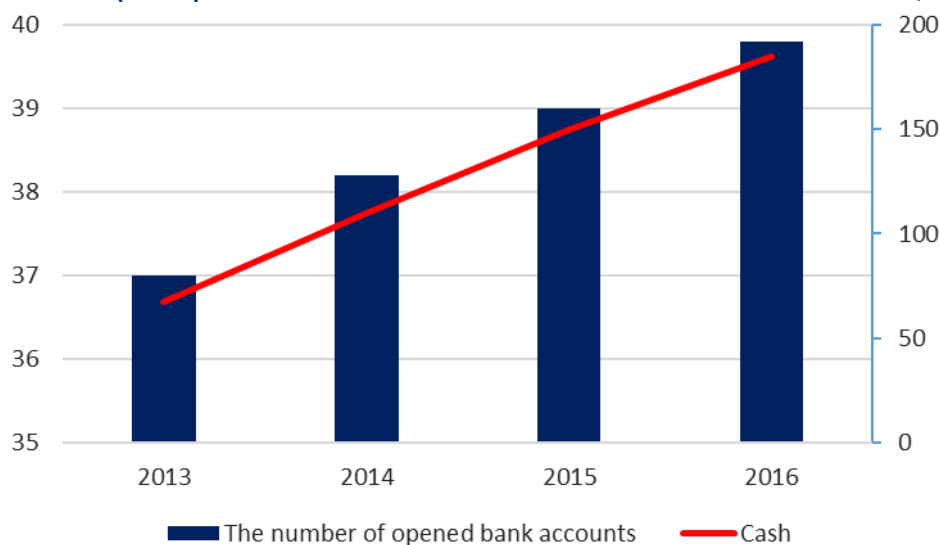

Source: Stola, 2018.

According to results of studies by Idzik and Sobczak (2018) from the year 2000 to 2014, the number of per capita bank cards has been increasing (Fig. 2). That growth was more dynamic than in the rest of the European Union. It must be noted that this fact does not mean an increase in the number of people owning bank cards, but an overall increase in demand for bank cards as a payment instrument.

Figure 2: Number of bank cards per capita in Poland and the EU

$(UE)\ y = 0.0261x + 1.1650$

$(PL)\ y = 0.0477x + 0.2612$
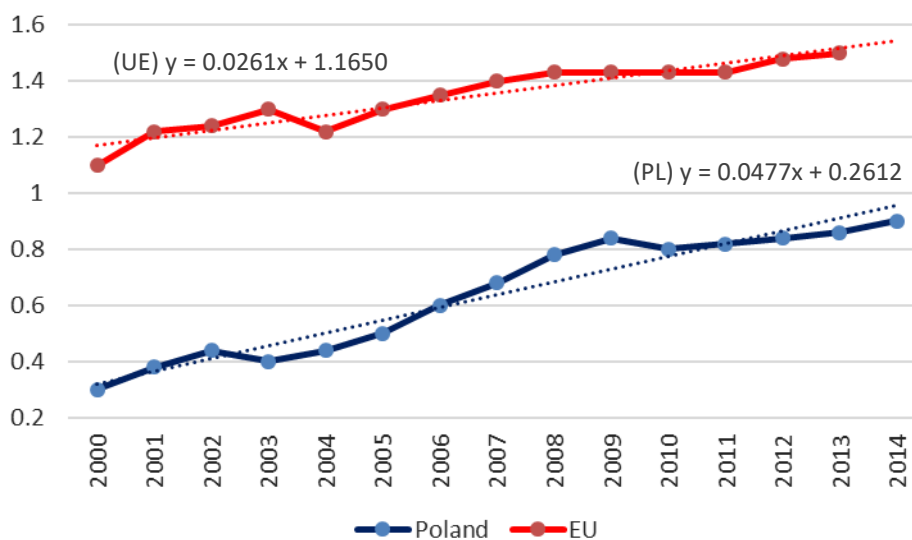
Source: Idzik and Sobczak, 2018.

Paying with payment cards is a substitute for payments in cash, and an increase in popularity, expressed by a growing number of payments carried out by cashless instruments, is determined by a few factors. Firstly, the acceptance of bank cards is increasing – a growing number of suppliers of goods and services possess a payment terminal. In the years from 2000 to 2014 the numbers of terminals per capita was growing in Poland faster than in the EU, of which the growth in 2014 was higher than the estimated trend function (see Fig. 3). This process continued in Poland for the following years, and the POS terminal number in recent years was (in thousands) in: 2018 - 787, 2019 - 907, 2020 - 1028, 2021 - 1123 (European Central Bank, 2022).

**Figure 3: Number of POS terminals per 1 mln inhabitants in Poland and EU**

$(UE)\ y = 524.81x + 11434.00$

$(PL)\ y = 500.45x + 1393.50$
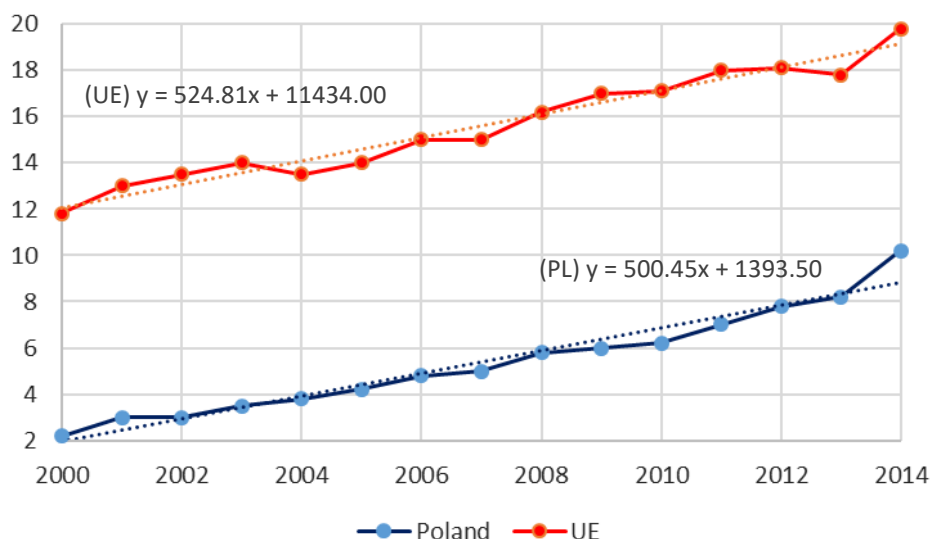
Source: Idzik and Sobczak, 2018.

Furthermore, a bank card is usually perceived as more convenient in usage than cash. That expresses itself in portability, because of its small size, negligible weight and little space taken up in the wallet, in contrast with cash (Van der Cruijsen, 2017). Conducting transactions by a card issued by a given bank means a higher sense of attachment to the bank, while also growing the bank's profits through payment fees. Additionally, banks compete with each other, often at the level of introducing innovations, allowing for using newer trends in cashless payments, such as Apple Pay, Google Pay or BLIK (Golnik, 2019). Thus, the banking system cares for, and encourages, popular availability and acceptance of cashless instruments.

A result of this is an increase in the speed of cashless circulation. Results of an experts' panel conducted by Jakubowska (2018) show that the experts agree as to an incredibly speedy development of cashless circulation in Poland in the three years preceding the study (Fig. 4). However, according to the experts, the Polish market has not been fully prepared for further development of the network of card acceptance, while most experts do mostly agree that the main barrier to the development of the cashless circulation is the hesitancy of companies to accept payment cards.

Figure 4: Review of the level of development of the cashless circulation

Source: Jakubowska, 2018.
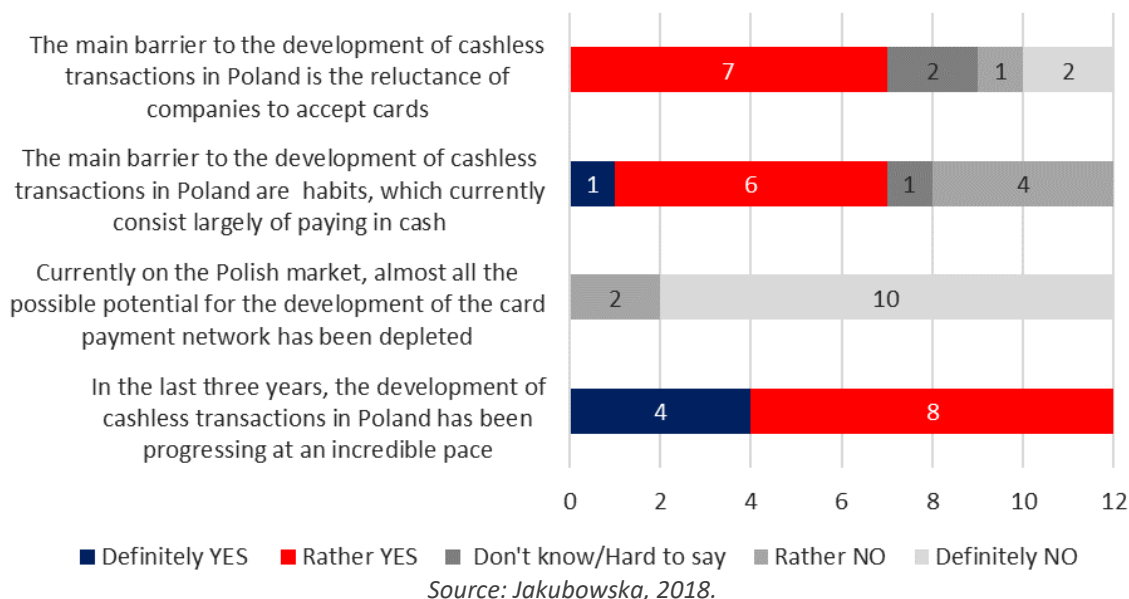
The dynamic and constant growth of the speed of the development of payment infrastructure, along with an increased demand for payment cards has resulted – in line with results presented by Esselink and Hernández (2017) in Poland becoming a country with a smaller share of cash as means of payment than the EU average, which amounts to 63% (see Fig. 5). In Europe, the country with the smallest share of cash as means of payment is the Netherlands – 45%, while the largest Malta – 92%.

**Figure 5: Share of cash as means of payment in EU countries**
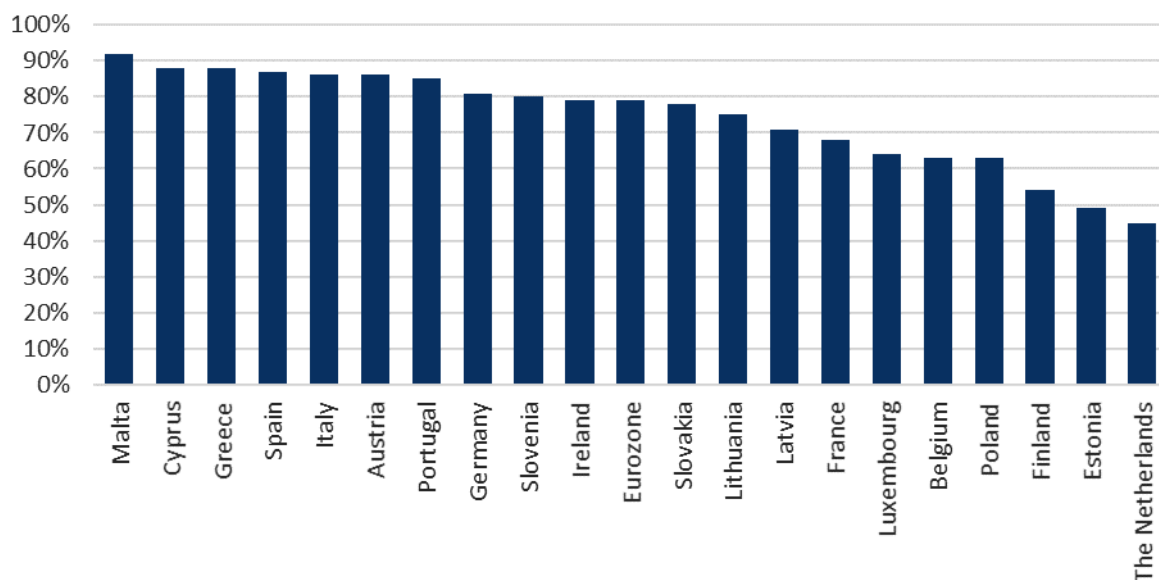
Source: Esselink & Hernández, 2017, as cited in Harasim & Klimontowicz, 2019.

Studies concerning the topic of forms of payment before the outbreak of the COVID-19 pandemic have shown that since 2005 the share of cashless transactions in retail has been constantly increasing in Poland. In 2005 only 2 in 100 retail purchases in Poland were made using a cashless instrument, while in 2019 as many as 46 in 100 (Fig. 6). However, a large impact on preferences and, thus, payment habits has been made all around the world by the COVID-19 pandemic — hugely impacting the payment market.

Figure 6: Share of cash and cashless payments in the amount of retail sales in Poland
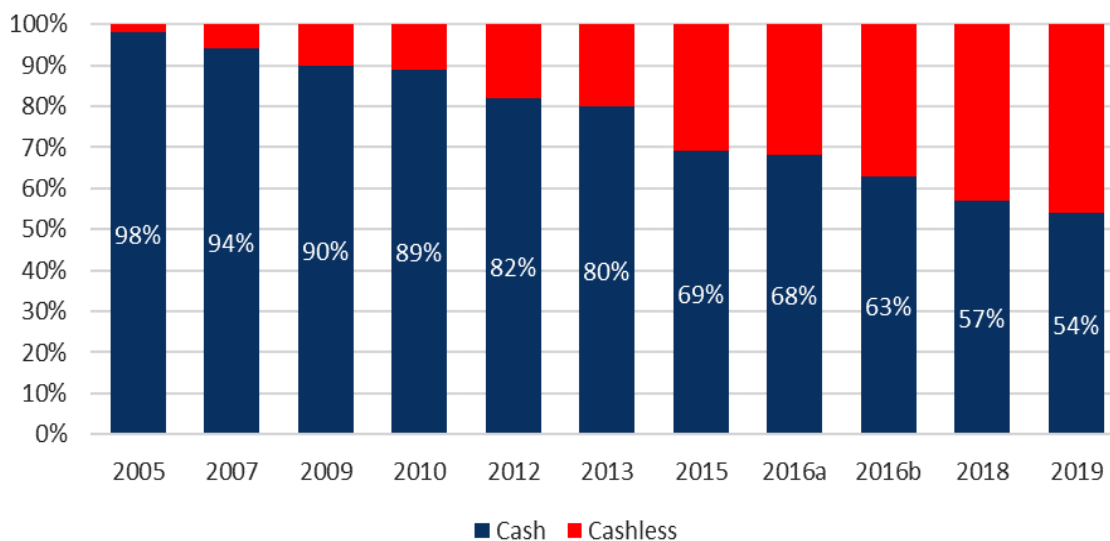

Source: Polasik et al., 2020.

The growing share of cashless payments is possible thanks to the strongly oriented services sector, allowing for the usage of modern tools in making purchases. Poland in 2019 has been a leader in terms of the number of locations offering payment services per 1 mln inhabitants (see Fig. 7). It has to be noticed that in this comparison Luxemburg has nearly half as many service points compared to Poland.

**Figure 7: The number of locations offering payment services per 1 mln inhabitants in 2019**
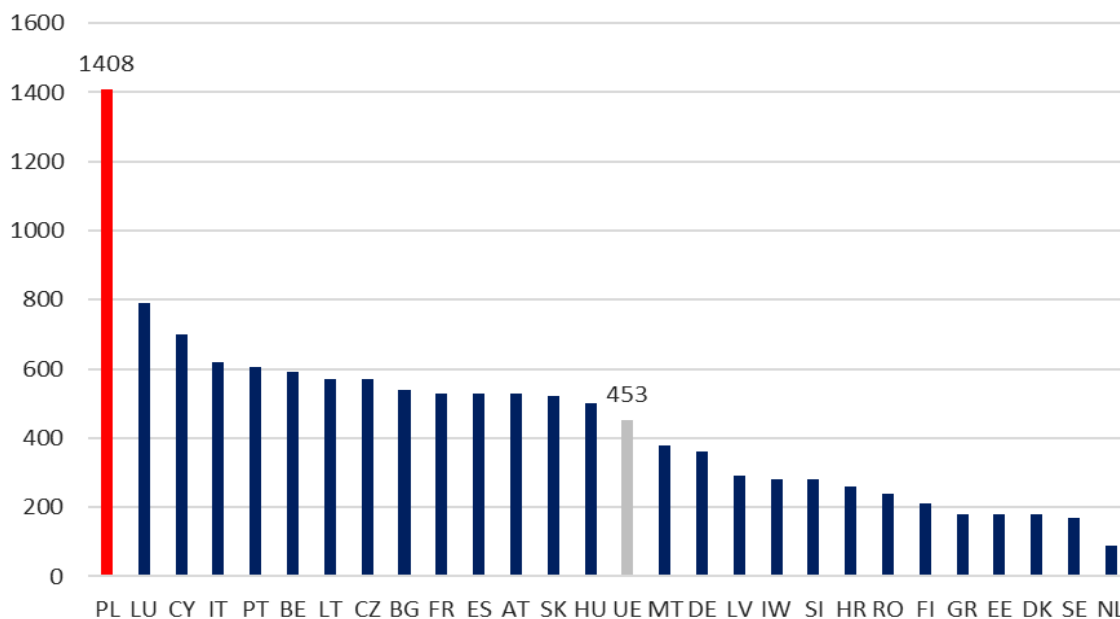
Source: Iwańczuk-Kaliska et al., 2021.

The report prepared by Iwańczuk-Kaliska et al. (2021) additionally shows that the number of payments using the mobile payment system BLIK introduced on the 9th of February 2019 has grown exponentially eve-ry quarter (Fig. 8). In turn, in a yearly scope, the dynam-ic between 2015 and 2019 amounted to nearly 400% (comp. Table 1).

Figure 8: The number of all transactions in a quarterly scope – BLIK system (Q2 2015 – Q3 2020)
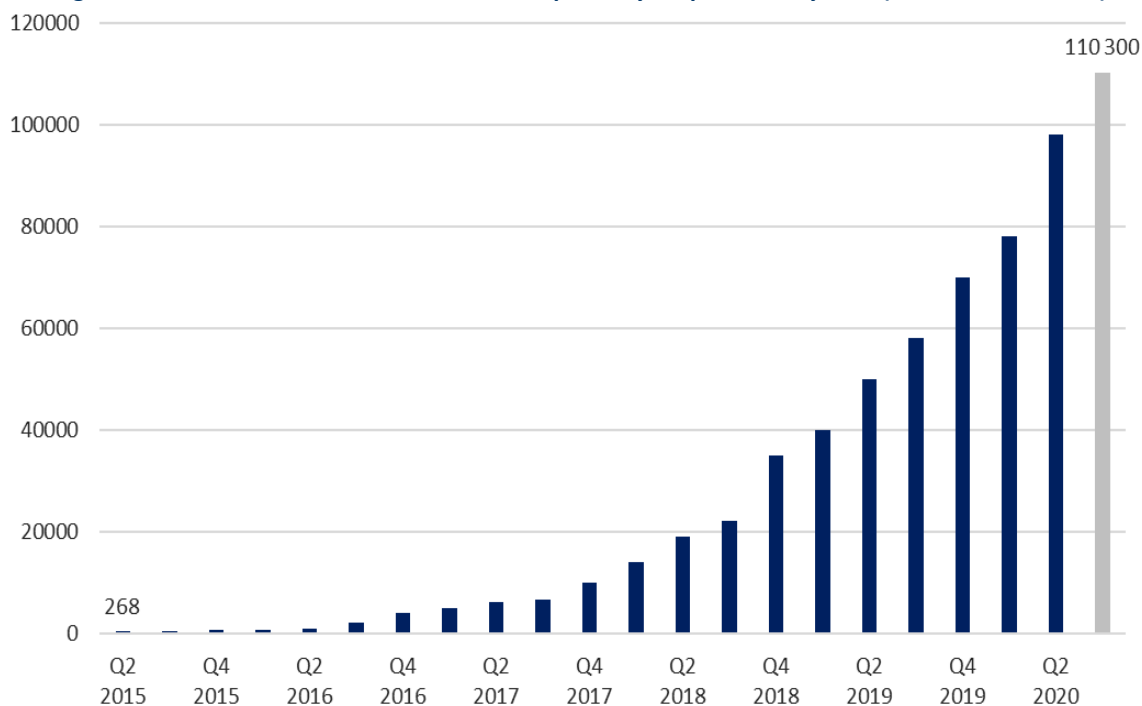
Source: Iwańczuk-Kaliska et al., 2021.

Table 1: Transactions with BLIK system between 2015 and 2019 (inclusive)

|	2014	2015	2016	2017	2018	2019
Number of transactions (in thousands)	-	1,271.0	8,256.0	33,043.0	90,815.0	217,735.0
Dynamics of changes (previous year = 100)	-	-	650%	400%	275%	240%

Source: Iwańczuk-Kaliska et al., 2021.

The discussed studies contemplate the methods of payment chosen by consumers during single-use trans-actions. An important kind of payment are those re-quiring cyclical repetition. Data regarding the share of particular payment instruments with a collective amount and value in cyclical payments is supplied by a report conducted by National Bank of Poland (2021). The results are shown in Fig. 9.

Figure 9: Detailed share of particular types of financial instruments in the total number and value of cyclical payments
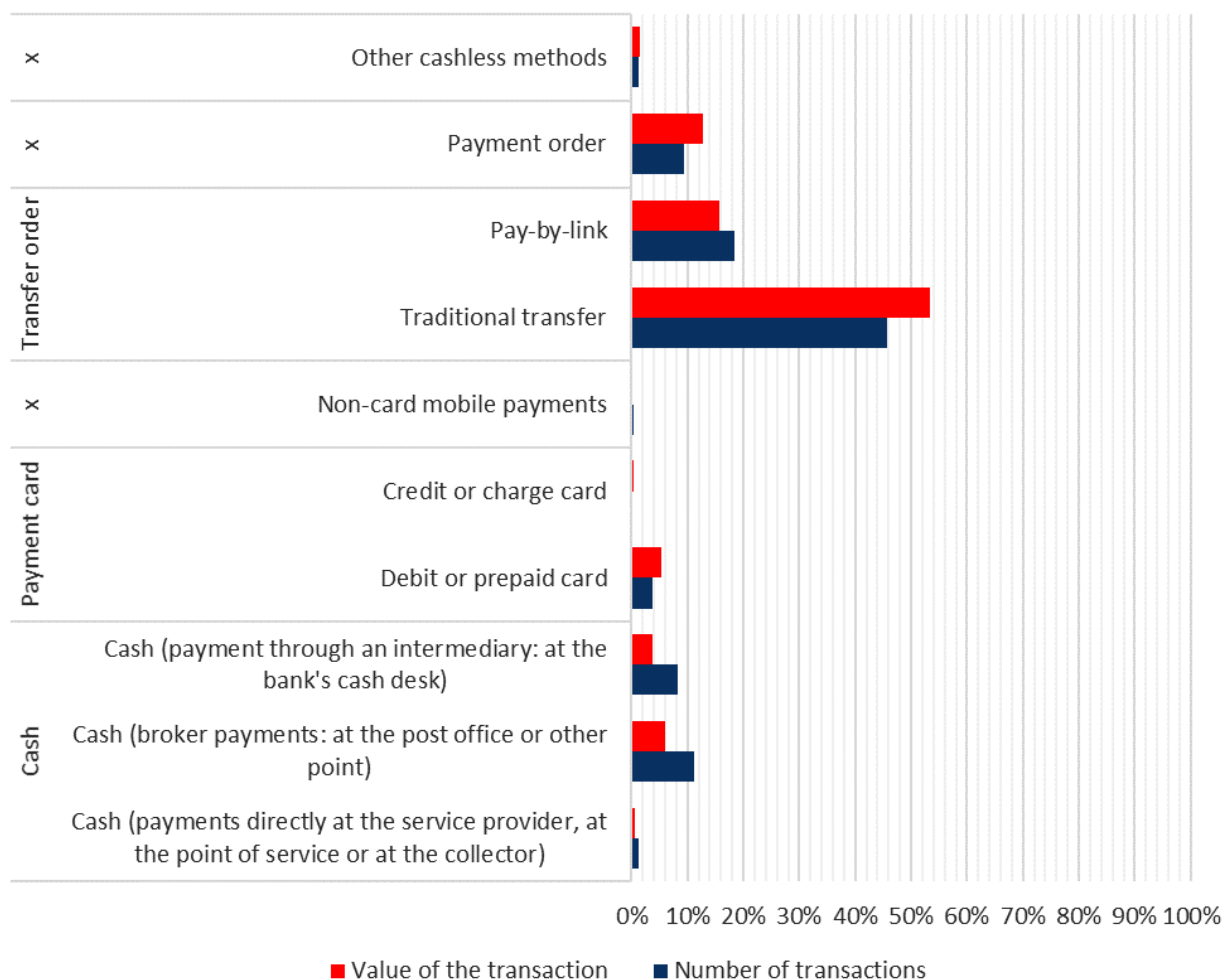
Source: National Bank of Poland, 2021.

Both in terms of value and the number of payments, the most popular financial instrument in cyclical payments is a traditional transfer. A larger share of value, compared to the share of the overall quantity, means that using transfers regards larger amounts, while smaller amounts are more often carried out by cash. More than 2 in 10 payments are carried out by cash. Contrary to single transactions, with cyclical payments the share of payment cards amounts to only 4% of the number and 5.8% of the value of transactions.

The changes in payment habits caused by the Covid-19 pandemic

The spread of the COVID-19 pandemic has forced world governments to take action aimed at curbing further infections. Imposing restrictions on movement of people and using services of certain sectors of the economy, in critical moments of lockdown, was coupled with information campaigns about potential sources of infection. Cash was mentioned as one of these potential sourced of infection, and the public was encouraged to use cashless forms of payments. Consequently, the flow of cash curbed at a faster pace than before the pandemic, which is shown by the rate of change of the share of transactions made with cash in the overall value of retail transactions in given years (Table 2).

Table 2: Comparison of the rate of change of the share of cash transactions in the overall value of retail transactions in given years

Method	2017-2019					2020			
	Q1	Q2	Q3	Q4	Mean	Q1	Q2	Q3	Q4
M1	-2.6	-3.2	-3.3	-3.4	-3.1	-3.4	-6.5	-6.0	-5.1
M2	-0.7	-1.7	-1.7	-1.1	-1.3	3.3	-1.9	-6.8	-2.4
M3	-4.9	-5.4	-5.6	-5.0	-5.2	-3.7	-8.8	-10.7	-6.9

M1 – estimated classical residual consumption
M2 – the share of cash outpayments in household expenses
M3 – share of cash outpayments in the overall value of cash outpayments and payments with close cash substitutes

Source: Kaźmierczak et al., 2021.

Studies conducted by National Bank of Poland (2021) show that 82.5% of those between the ages of 18 and 24 own at least one payment account. This comprises a lower share than in the age groups of 25-39 and 40-54, 96.8% and 97.2% respectively. According to 34.1% of people surveyed, the COVID-19 pandemic changed their consumer behaviours, and 34.6% say it changed their payment habits. For the age group 18-24 only 24.5% pointed to change in consumer behaviour, and 31.5% to a change in payment habits. More than 8 in 10 respondents said that the preference change mentioned regards an increase in usage of cashless instruments (Fig. 10). It is worth noting that during the COVID-19 pandemic 8.3% of respondents have experienced a difficulty in cash payments.

Figure 10: The type of change in behavior in relation to the COVID-19 pandemic amongst respondents reporting a behavioral change


Yes, I pay more in cash — 18.3%
Yes, I pay more often without cash — 81.7%
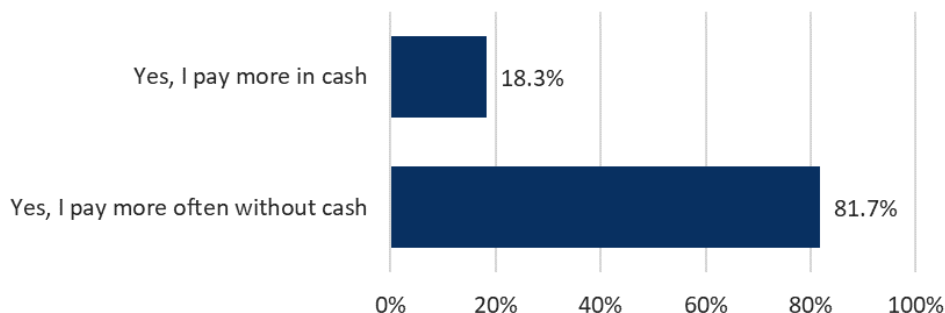
Source: National Bank of Poland, 2021.

According to Deloitte (2022) digital payments had a growth rate of over 20% between 2020 and 2021 in Poland. The primary determinant of such a growth rate was the development of the e-commerce market, which amounted to more than 30% during this period. Additionally, according to the data from Mastercard (2020, as cited in: Iwańczuk-Kaliska et al., 2021) the COVID-19 pandemic has caused a significant shift to contactless card payments by 90% of the Polish society. A corresponding result was reached by Polasik (2021). His studies indicate that the impact of the COVID-19 pandemic on behaviour has been felt by 48% of respondents, out of whom 81% used cashless payments more often. Out of representatives of the youngest age group, the change has been noticed by 55% of respondents, out of whom 96% used cashless forms of payments more often.

It must be noted that new forms of payment are becoming ever more popular, particularly amongst younger people, who will soon be the recipients of financial products (Golin, 2019). In relation to this, while analysing transactional data, the age of the purchaser is increasingly being included. One example of this can be methods of payment for goods and services purchased on the Internet (Fig. 11).

Figure 11: Methods of payment for goods and services purchased on the Internet
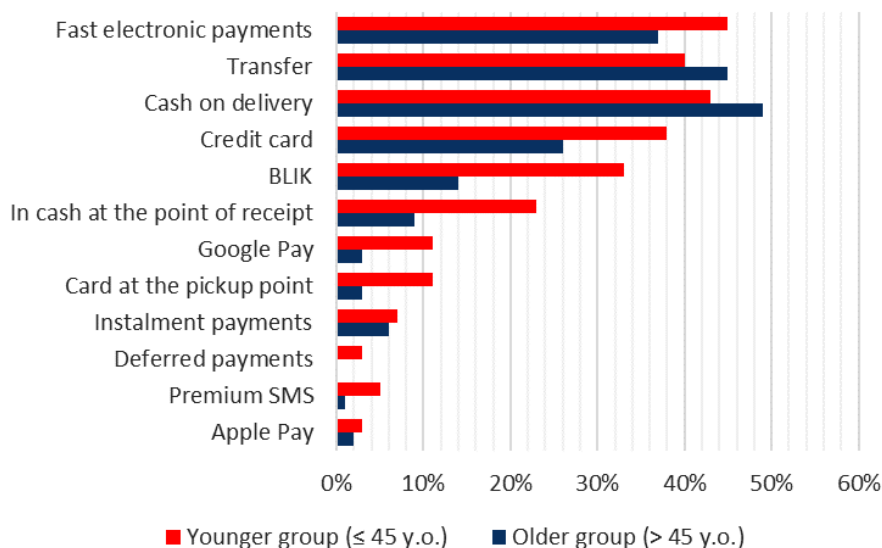
Source: Iwańczuk-Kaliska et al., 2021.

Representatives of the younger age group (up to 45 years) by far use payment cards and BLIK more often than representatives of the older age group. Additionally, younger people more often use Buy Now Pay Later (BNPL) schemes. It is worth noting that regardless of the age group, with payments before shipment of goods purchased online, the dominant method of payment is a bank transfer or rapid electronic payments.

Discussion

At the beginning of the third millennium Drehmann et al. (2002) asserted that technological constraints constitute a limit to the development of cashless forms of payment. Continuous technological development and the ever-increasing role of digitalisation in everyday life have made cashless payments commonly accepted (Klimontowicz, 2014; Idzik & Sobczak, 2018). Additionally, those growing up in a world where technology is used at all times, has made them already acquainted with that technology. Consequently, those people possess the necessary skills allowing for the usage of the technology and feel no barriers to use it, eagerly doing so (Bieleń & Kubiczek, 2020). Therefore, there exists a corelation between preferred payment methods and demographic variables (Van der Cruijsen & Plooij, 2018; Stavins, 2016; Koulayev et al., 2016). Thus, the generational shift may be considered a factor increasing the share of cashless transactions. However, despite technological innovations, growing acceptance of cashless instruments and the ongoing generational shift, just before the outbreak of the pandemic, cash

payments possessed a large share of overall transactions (Świecka et al., 2021). This stems from a limited possible degree of substitution of cash and payment cards as payment instruments (Marzec et al., 2014).

As the main driver of change of payment habits during the pandemic, Kim (2020) views the change of the place of making purchases. This view is consistent with the work of Polasik and Kuc (2011), which shows that the default while making purchases online, is paying with cashless instruments. Analogous conclusions are drawn from the Schlossberger and Soldánová (2022) study and Deloitte (2022) report. Furthermore, during the pandemic numerous innovations have been implemented and already existing technologies related to cashless payments have been further developed (Hantrais et al., 2020) – in Poland particularly the BLIK system (Iwańczuk-Kaliska et al., 2021).

However, Huterska et al. (2021) believe that the care for the safety of health and lives during the COVID-19 pandemic caused an increase in speed of growth of cashless payments. According to Bhutta et al. (2020) and Yue et al. (2020) the permanence of the change in payment habits is questionable. However, Waliszewski and Warchlewska (2021) assert that the share of payments made with cashless instruments will not only persist but grow.

Conclusions

The digitization of life, which progresses year by year, has been accelerated with the introduction of restrictions and lockdowns aimed at reducing the

spread of coronavirus. Referring to the pace of digitization and use of technology within the payment habits of Poles, it should be noted that in 2005 no less than 98% of retail payments were made using cash, while in 2019 the share of payments which were made using cash was only 54% – the rest was constituted by cashless payments. The increasing preference of payments with cashless instruments has caused Poland to be well below the EU average in terms of the share of cash transactions. The underlying obstacle in the further development of the cashless payment market was the acceptance of these forms of payment.

The outbreak of the COVID-19 pandemic has contributed to the decrease in cash circulation, while simultaneously increasing the willingness to pay with cashless payment instruments. Within the multidimensional influence, two main aspects must be mentioned. Firstly, the pandemic has contributed to the digitalization of many aspects of life, including making purchases. The usage of the Internet for purchasing goods and services is directly tied to cashless payments. In 2021, digital growth was above 20%, tied a with 30% growth in e-commerce. Secondly, the potential risk of infection with the coronavirus when making purchases, has re-sulted in people choosing to pay with forms of payments alternative to cash. The number of POS terminals reached more than 1.2 million in 2021.

A study showed that as many as 38% of Poles became more likely to pay by card due to the pandemic. Nonetheless, a too short period of time from the point of restrictions being lifted, together with repeated increases in COVID-19 infections, means that it is incredibly difficult to determine the permanence of changes in payment habits. This constitutes both a limitation and further potential direction of research of this study. Another limitation is the fact that as time passes, a generational shift is taking place, which impacts payment habits and, thus, it is incredibly difficult to accurately discern the effects of the COVID-19 pandemic. Nevertheless, this study possesses many practical implications. The results may constitute a starting point for further studies concerning payment habits and be of use when comparing payment habits during the COVID-19 pandemic in other countries. The study further shows that, currently, cashless payments are considered the default, not only in online activity, but are also becoming commonly used in brick-and-mortar establishments.

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