DIGITAL PAYMENT SYSTEMS AND THEIR IMPACT ON INFLATION

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Abstract: Due to the rapid expansion of digital payment systems, global financial transactions have been revolutionized, reducing reliance on physical cash and increasing transaction efficiency. This paper aims to critically explore the impact of digital payment systems on inflation and analyze both their advantages and potential risks. The widespread adoption of credit and debit cards, mobile payment applications, and cryptocurrencies has led to increased money circulation, its velocity and cased inflationary pressures. Moreover, the integration of digital transactions helped government reveal shadow economy and follow up the transparency of transactions. Moreover, digital payments strengthen monetary policy and give the possibility to central banks to respond swiftly to economic fluctuations. However, this system has its disadvantages as cryptocurrencies create volatility on the market and the transition to a fully digital economy is now impossible.

Keywords: *digital payment systems, monetary policy, inflation, impact*

JEL Classification: E31, E42

INTRODUCTION

Nowadays, when the world is developing at a light speed and people's days are meticulously planned to the minute, many are seeking ways to significantly enhance their quality of life. With the appearance of the top-notch technology many realms have been dramatically improved and payment system is not the exception. In recent years, the integration of Computer Technologies into economical frameworks has not only enhanced transactions, making them more accessible but also transformed the global financial market. Thus, payment systems changed greatly and turned into a host of digital platforms that have become widespread all around the world.

Digital payment systems have experienced great diversification through last decade and refer to various electronic methods of transferring money. They include: credit and debit cards, mobile payment apps (e.g., PayPal, Apple Pay, Google Pay), cryptocurrencies, Central Bank Digital Currencies (CBDCs), online banking and wire transfers. These led to increased transaction speed and accessibility to any walk of life.

Advanced technology has replaced the role of cash with cashless transactions, such as credit and debit cards, electronic checks, and online and offline digital wallets. (Andrieu 2). A cashless economy has a positive effect through the financial transparency and reduced transaction costs (Kumari & Khanna 4).

This article aims to critically explore the use of digital payment systems, mainly focusing on their impact on global economy and inflation rate in particular. It will evaluate the system’s effectiveness in comparison to traditional methods of payment, examining both its strengths and potential limitations.

MAIN CONTENT

1. Materials and methods

Although money still plays an essential role in all purchases, it now does not operate in a physical way and is usually replaced by digital ways of transferring money. Their origins date back to the era of steam engine railroads, in the 1870s, when Western Union debuted its electronic funds transfer which was operated via telegraph on copper wires and initiated a new way of payment. In 1910, the Federal Reserve first used the telegraph to transfer money. Fast-forward to the 1950s, when American Express introduced the first credit card, transactions became instantaneous, including deferring payments and accumulating debt. Electronic payments in the late 1960s through the 1970s saw a significant leap forward. Barclays Bank introduced the first automated teller machines (ATMs) in the UK in 1967, soon to be followed by Chemical Bank in the U.S. in 1969. The Automated Clearing House (ACH) was officially established in 1972. The Society for Worldwide Interbank Financial Telecommunication (SWIFT) for cross-border payments established in Belgium went live in 1977. These technologies were further developed throughout the 1980s, but with the advent of the Internet and digital technology in the 1990s, electronic payments evolved at light speed. This is where today's e-commerce, mobile banking, contactless payments, cryptocurrencies, and central bank digital currencies all have found their point of genesis (Montevirgen M. 2).

First and foremost, digital payment systems, such as credit cards, mobile money transfers and e-wallets provide the possibility for individuals to perform instant transactions. As a result, money moves faster from one user to another, increasing its velocity. Due to the fact, that the ability to purchase any items has become more accessible, the demand has as well experienced a dramatic increase. It may contribute to inflationary pressures, if supply does not expand proportionally (Payments statistics 3). Another point to mention is the fact that payments made by different digital appliances are monitored with greater ease by governmental institutions, such as Tax Authority or Finance Police. It reduces the risk of shadow economy and helps identify suspicious patterns of payment such as money laundering or tax evasion.

Last, but not least, digital methods of payment improve the efficiency of monetary policy by enabling quicker responses to interest rate changes as Central Banks receive information about relevant data and current financial situation when deciding on the volume of loans. Credits and capital investments become more accessible to a wider range of people due to its speed while processing transactions.

2. Results and discussions

The usage of digital payment systems has made the transactions easier and more accessible. Digital payment systems has both advantages and disadvantages. The advantages of digital payment include the following:

1. High liquidity within the country.
2. Ease of use.
3. Increased purchases of goods and payment for services.
4. Impossibility of counterfeiting.
5. No physical wear and tear.
6. Possibility of payment by QR.
7. Possibility of interstate exchange within individuals and legal entities.
8. High level of transaction traceability.

9. Possibility of receiving cashback from purchases.
10. Possibility of paying large amounts.

The disadvantages of digital payment include the following:

1. Susceptibility to inflation.
2. Low transaction speed, bank transfers can take 1-3 days.
3. Possibility of government influence on the exchange rate, which leads to "acceleration of inflation".
4. Centralization of account data within banks, which creates the possibility of data hacking and loss of funds.
5. The possibility of blocking an account by the bank owner for any reason.

Based on data published by European Central Bank, the use of electronic money continued to increase. This phenomenon can be seen in figure 1. Figure 1 shows the number of digital transactions in billions in EU for the period 2000-2024.

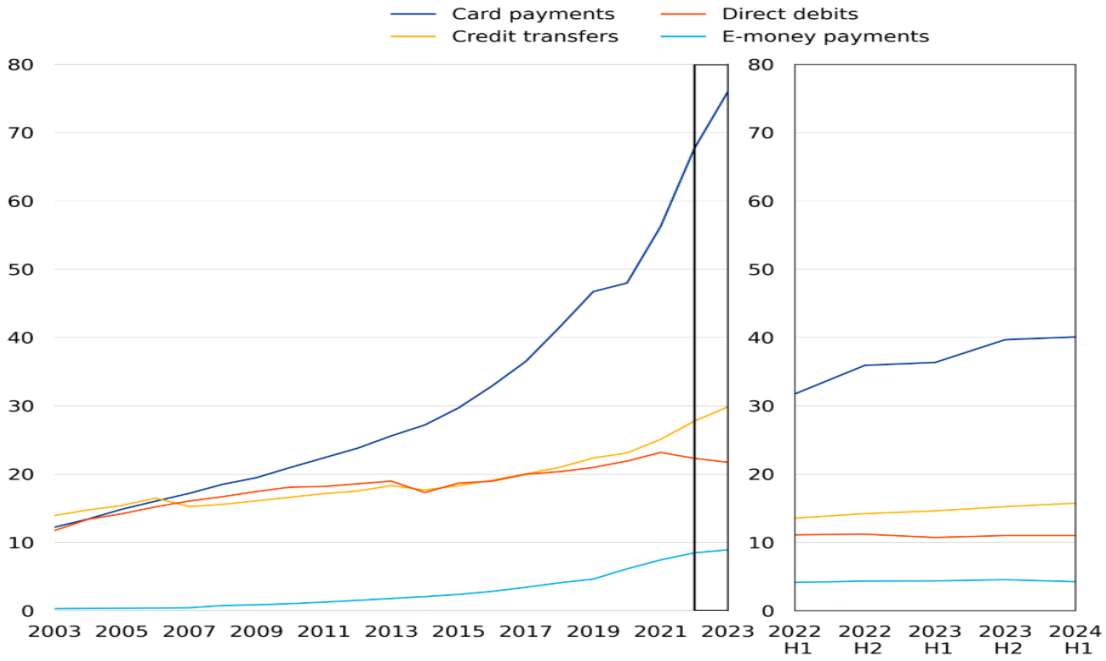

Figure 1: Number of digital transactions in billions in EU 2000-2024 (graph on the right-hand-side refers to half-yearly data)

Source: *www.ecb.europa.eu*

As you can see from the figure 1, the use of non-cash payment instruments increased yearly. Digital payments showed very significant developments. The number of digital transactions increased throughout the analyzed period, but it was mostly through credit cards, reaching about 75% in 2023.

Countries such as Sweden, the Netherlands, Finland, and the United Kingdom show the potential to make their countries cash-free in the next few years.

One of the disadvantages of digital payment is the fact that, this may cause a dramatic increase in prices and as a result, an inflation pressure. Though, other factors, like low interest rates, increase in governmental subsidiaries, currency shock, should also be taken into consideration.

If the power of money circulation is high, it is feared that it will cause inflationary effects. Low and stable inflation leads to the welfare of society, and uncontrolled inflation leads to poor socio-economic indicators. Therefore, inflation control is very important for sustainable economic growth. Figure 2 shows the results of inflation changes in the EU countries for the period 2016-2023.

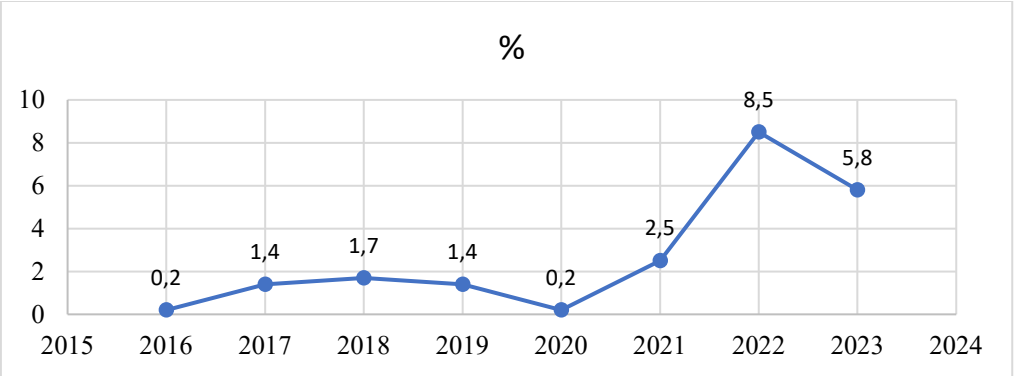

Figure 2: Inflation, consumer price % EU (2016-2023)

Source: *www.worldbank.org*

As can be seen from the figure 2, the inflation rate has increased significantly since 2020, from 0.2 in 2020 to 8.5% in 2022, followed by a slight decrease to 5.8% in 2023.

CONCLUSION

The integration of digital payment systems has significantly transformed world economy and the way of purchasing any items or service. Top-notch appliances such as credit cards, mobile banking and cryptocurrencies demonstrate the potential of technology to ameliorate payment process making it easier to access. By introducing them in mass, government is able to control transactions, find out suspicious actions and reduce phishing or illegal money circulation. Digital payment systems also influence inflation through multiple channels, including money velocity, monetary policy effectiveness, cost efficiency, and financial inclusion. Though, the rise of digital money, such as cryptocurrencies, introduces volatility in financial markets. If widely adopted, they could influence inflation expectations, destabilizing national currencies until the regulatory police is stable.

The constant development of technology creates a great opportunity for the development of comprehensive digital paying systems. Developed countries widely implement Central Bank Digital Currencies to react faster to changes in economic situation, adjusting interest rates and bank liquidity. Cashless transactions can also be of interest to government, as they increase payment transparency helping reveal and tackle shadow economy. Nevertheless, there are some constrains in this realm, as inappropriate regulatory policy may cause new challenges to Central Banks by decrease in deposit amount and interest rate fluctuation.

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