

## FINANCIAL DIGITALIZATION AND ECONOMIC GROWTH: RECENT DEVELOPMENTS IN BANKS AND FINTECH

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### Abstract:

High technology enables payment evolution and global competition. The ambiguity surrounding the digital currency still leaves ample room for analysis of its unreserved acceptance, trust and anticipation, which are the main drivers of the network's spread. Bitcoin and other cryptocurrencies have the potential to replace traditional and new forms of payment. But to achieve this and become a dominant force in the global payments system, they must provide distinctive individual value, address and overcome a number of critical challenges, such as formal regulatory issues. Banks should take a close look at the technology underlying these cryptocurrencies as a potential generic new way to transfer ownership of value in the long term.

The objective view is that the future of digital currency is currently still an open question due to the existence of a "critical mass". The research showed that the future of cryptocurrencies can be bright if some institutional-formal conditions are met due to the fact that the successful evolution of e-money requires building security payments through three criteria – standardization, compatibility and innovation.

Also, the partnership between Fintech companies and banks is an already implemented formula that bears fruit, but we must not leave out the fact that all developed countries in their platforms, in addition to connecting banks, implement the platforms with the direct participation of e-Government and the concept of interoperability.

*Keywords: digital currency, banks, Fintech, economy.*

### 1. Introduction

Electronic money is not a new phenomenon. Online commerce has increased the use of new technologies, thereby increasing the demand for new electronic payment methods. What is really new is electronic payment in retail and the use of the Internet as a new monetary market. Today money becomes ready information on the microprocessor or in the database. Without a doubt, the purpose of such an instrument is to improve the efficiency of the traditional payment method. At this moment, there are still no clear standards in the Blockchain mechanism and therefore we do not know the boundaries, so participants can easily communicate without the presence of a regulator. Behind Blockchain technology is the universal Internet currency, which in turn raises many questions about the use of advantages and risks/damages that would arise from the application.

High technology enables payment evolution and global competition. However, the ambiguities surrounding the use of the digital currency leave enough room for analysis of its unreserved acceptance, trust and anticipation, which are the main drivers for the spread of the network. Specifically, network expansion requires demand interdependence, meaning that the Network must reach a minimum required volume before reaching equilibrium. The minimum volume of the network is called "critical mass". Therefore, the objective view is that the future of digital currency is currently still an open question due to the existence of a "critical mass".

Furthermore, the paper explores financial privacy which is a very sensitive issue when using digital currency (or cryptocurrency). The successful evolution of e-money requires building secure payments through three criteria – standardization, compatibility and innovation.<sup>1</sup>

The diffusion that digital currency brings in the modern era amplifies antitrust issues related to network externalities and global competition between the world's most researched currencies. This is the reason to include in further analyzes an overview of social costs and benefits, as possible risks of using digital currency. This means that in order to remain compatible with each other, all users must use software that meets the same rules. Therefore, all users and developers have a strong incentive to protect this consensus and set up a regulator.

Finally, the paper considers the question – is there any prospect of taking the technological revolution and the monetary evolution hand in hand without risks in the real world?!

## **2. The general regulation on data protection and digital banking**

After one year has passed since the implementation of the General Data Protection Regulation (GDPR), an analysis has been made of how the transition to a new data protection regime was marked in the past period and what are the consequences for digital banking.<sup>2</sup> It is no coincidence that the General Data Protection Regulation has created a bigger and more challenging regulatory landscape, which opens up new opportunities for the digital banking sector.

While the legislation has undoubtedly resulted in a more demanding regulatory landscape, many of the initial fears, such as maximum fines for data breaches, are not evident. Also, regulation is largely well integrated into the financial services sector.

But what is more significant is that the increasingly digitized banking sector is more dependent than ever precisely on consumer trust - especially, with the advent of open banking, which makes it even more critical to ensure the right to data privacy and cyber security. In that context, opportunities have arisen in five key areas as a result of the General Data Protection Regulation and the rise of data protection.

The General Data Protection Regulation has improved the already high standards of European financial firms in handling customer data. As a result, this regulation has helped foster greater confidence in financial institutions. Also, this situation has set a useful example for other countries looking to integrate additional privacy and data protection measures into their financial systems. With jurisdictions such as California, Brazil and India seeking to adopt laws that offer similar protections to the General Data Protection Regulation (GDPR), such as California's Consumer Protection Act, banks in England and financial technology (Fintech) firms are leading. This is likely to have a global impact, feeding into the standards being assessed around the world and encouraging the growth of digital banking, fueled by high levels of consumer trust in technology and data protection.

A year after the General Data Protection Regulation (GDPR) came into effect, banks and fintechs have the resources and expertise to turn regulatory compliance into an advantage.

The General Data Protection Regulation has prompted compliance to strengthen data use and management practices and security procedures. At the same time, he emphasized the control of personal data from customers, transferring the power to consumers. Open banking has just come into force at the time of the implementation of the General Data Protection Regulation, which has opened the way for many new digital banking products and services from non-traditional providers.

Under the General Data Protection Regulation, consumers can choose which service providers have access to their data, the extent of information shared and the time period for which the data can be accessed. Therefore, the dual push of the General Data Protection Regulation and open banking puts digital banking customers in an enviable position, enabling them not only to protect their data, but also

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<sup>1</sup> Cohen, B. J., 2004. *The future of Money*, chapter seven. Princeton: Princeton University Press.

<sup>2</sup> Buffard, Sally, *The General Data Protection Regulation – a practical guide for trade unionists*, Labour Research Department Booklets, March 2018

to voluntarily share that data with third parties and fintech providers. providers offering innovative services. As more open banking products and services are launched, the benefits of data sharing become increasingly apparent, and the controls and protections of the General Data Protection Regulation could help further drive consumer adoption of open banking services .

The public debate on the General Data Protection Regulation has helped to reinforce data protection as a central issue in financial services. Boards and CEOs understand the value of data to businesses and consumers and the extent to which data protection is a prominent issue in society. With data privacy and security now often identified as a leading concern for boards, business leaders have become increasingly sophisticated in the way they think about data. For many firms operating in financial services, the General Data Protection Regulation is more than simply an addition to the regulatory tool, i.e. it is a real strategic advantage. Integrating data protection into core development strategies means bolder and more innovative decisions can be made. Any observer of the financial services sector can see that banks are innovating more than ever – a testament to their growing expertise in technology and data.

Technology, increased competition and consumer protection laws have empowered customers, and many are now considering ethics when looking to purchase new goods and services. The focus on ethics has also been reflected in the business community, with firms committing to corporate social responsibility and taking a closer look at environmental, social and government issues in their supply chains and investments.

Maintaining an ethical approach to data is a significant advantage. As financial institutions are the custodians of sensitive customer data, they have rigorously adhered to the General Data Protection Regulation and made ethical data handling a priority, as evidenced in the publication of data ethics frameworks by numerous companies. The result is a concise and easy-to-understand data policy that consumers can engage with. This is an advantage for maintaining customer satisfaction as well as strengthening corporate reputation.

As hackers and malicious actors become increasingly sophisticated, most organizations working in financial services will know it when data-related harm occurs. Any hacking or cyber breach is of course a risk of harmful consequences. But precisely the impact on reputation depends, to a large extent, on how such a breach or intrusion is handled.

The General Data Protection Regulation has strengthened banks' data processes and the procedures to be followed in the event of a breach, which could prove vital in preventing reputational loss and demonstrating strong regulator practices.<sup>3</sup> In the era of digital and open banking, this regulation acts as another line of defense, helping to ensure the survival of online banking platforms.

A year after the General Data Protection Regulation came into force, banks and fintechs have the resources and expertise to turn regulatory compliance into an advantage. While there may still be concerns about what is undoubtedly a strict compliance process, it is clear that it has also created opportunities for innovation, differentiation and strategic advantage in an increasingly competitive market.

### **3. An overview of the IT Revolution and innovations related to money**

Online commerce has increased the use of new technologies, thereby increasing the demand for new electronic payment methods. This began especially in the mid-1990s with the information revolution, the decline in the price of computers and the networking of computers. Cohen coined the term "change the geography of money." This term arises as a result of electronic payment in retail and the use of the Internet as a new monetary market. Due to the Information Revolution, a new electronic payment method has been introduced, known as electronic cash, e-bag, e-currency, digital currency, digital money or digital cash. Without a doubt, the purpose of such an instrument is to improve the efficiency of the traditional payment method. Bitcoin is a digital currency whose value fluctuates depending on

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<sup>3</sup> The General Data Protection Regulation: <https://eurlex.europa.eu/legalcontent/EN/TXT/?qid=1465452422595&uri=CELEX:32016R0679>

customer acceptance around the world. This is primarily due to the fact that, unlike the standard currencies we use, such as the dollar or the euro, which are regulated by central banks, Bitcoin is unregulated. Therefore, Bitcoin transactions are considered more private and anonymous due to the open system and the absence of a regulatory body and/or intermediary in the execution of transactions. Transactions are carried out using cryptographic protection, and their execution is carried out through a network of public electronic books called "ledgers". To verify transactions, it is necessary to have specific hardware and software that users can install and after a certain number of transactions receive a portion of Bitcoin. In this way, an additional launch of this digital currency is carried out.

#### **4. A brief historical overview of digital currency**

From the era of the barter economy, metal and coins to gold and silver, continuing to modern monetary systems and checks, and ending with the latest developments in global currency, such as the introduction of cryptocurrencies like Bitcoin, centuries have passed. Each type of money plays a key role in transactional activities over a period of time. As human society and markets developed, so did the need for more sophisticated instruments of commodity exchange. In this regard, the introduction of cryptocurrencies revolutionized the international payment system on a scale that was unimaginable just a few years ago. A cryptocurrency is a digital or virtual currency that uses cryptography for security. Cryptocurrency is difficult to counterfeit because of this security feature. A defining characteristic of cryptocurrency, and arguably its most attractive, is its organic nature as it is not issued by any central authority. Cryptocurrencies have their advantages and disadvantages. The main benefits of using cryptocurrencies are that they make it easier to transfer funds between two parties in a transaction.<sup>4</sup> These transactions are facilitated through the use of public and private keys for security purposes. These fund transfers are done with minimal processing costs, allowing users to avoid the hefty online transaction fees charged by most banks.

There are two reasons for the emergence of electronic money and digital currencies. The first, according to the Austrian School of Economic Analysis, money is a "social institution" subject to already initiated institutional change and is interpreted as a consequence of spontaneous evolution that should overcome the shortcomings of exchange and the double coincidence of desires.<sup>5</sup> Today, e-money is the last stage of this development and represents an additional degree of institutional change.<sup>6</sup>

Their main role is to support online e-commerce, enable transactions, reduce their costs or replace cash and coin payments in retail. The second reason for the emergence of e-money is the Information Revolution, which is characterized by the integration of electronic information processing and telecommunication technologies, thus reducing geographical differences with the help of which information can be transmitted around the world. The information revolution has changed the financial sector, making payment methods safer and more efficient, giving an additional reason for the emergence of new monetary innovations.<sup>7</sup>

Unlike the information revolution, the emergence of e-money is a new way of processing information to transfer purchasing power. Many financial innovations are not a new form of money, but a different way of using existing money in transactions.<sup>8</sup> Regardless of the consequences of the mentioned technological development, the nature of money is still identical, that is, money serves as a medium of exchange, as an asset and as value. The nature of money will never change, so money will remain only

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<sup>4</sup> European Central Bank, 2005. *The Blue Book*. Bucharest: European Central Bank.

<sup>5</sup> Hayek, F. von., 1976. *Denationalisation of Money: An Analysis of the Theory and Practice of Concurrent Currencies*. Londres: Institute of Economic Affairs.

<sup>6</sup> Schmitz, S. W., 2001. "The Institutional Character of Electronic Money Schemes: Redeemability and the Unit of Account" in M. Latzer and S. W. Schmitz, eds. *Carl Men-ger and the Evolution of Payment Systems: From Barter to Electronic Money*. Cheltenham, UK and Northampton, MA: Edward Elgar.

<sup>7</sup> Goodhart, C. A. E. and Krueger, M., 2001. "The Impact of Technology on Cash Usage". *The magazine of De La Rue*, (4), 9-11.

<sup>8</sup> White, L. H., 1996. "The Technology Revolution and Monetary Evolution" in J. A. Dorn, ed. *The Future of Money in the Information Age*. Washington, D.C.: CATO Institute

an intermediary in the exchange of goods and services. An e-money card is a different payment method that enables the electronic transfer of value from card to terminal or from card to wallet, both in real time and over networks.<sup>9</sup> E-money is considered to be the most important development that transfers the predetermined monetary value so that it can be used for more transactions of lower value. "E-pocket" consists of a microcomputer that contains information about the monetary value that can be used. It is a higher level of technological development compared to magnetic stripe cards. Also, an e-purse is more secure, which can reduce fraud because chip cards can be more difficult to abuse than magnetic stripe cards.

### **5. The role of central banks and the emergence of central bank digital currency**

How should central banks and monetary policy be positioned towards the newly designed service economy?

The rise of crypto-assets and the wider adoption of Distributed Ledger Technology (DLT) point to opportunities for wider access to payment services. If crypto-assets gain a leading role, the demand for money from central banks is likely to decrease. Will this change reduce the CB's ability to control short-term interest rates? Central banks normally conduct monetary policy by setting short-term interest rates in the interbank market for reserves, so ceasing to be a monopoly supplier of such reserves would deprive them of the ability to conduct monetary policy. In finding a solution for how central banks should respond to the competitive pressure from cryptocurrencies on fiat currencies, it would initially be to strive for better and more stable units of account. No less important are the government authorities that have to regulate the use of crypto-assets due to regulatory arbitrage that usually results from easier regulation. This implies rigorous application of measures to prevent money laundering, strengthening consumer protection as well as effective taxation of crypto transactions. Also, central banks should make money user-friendly in the digital world by issuing digital tokens on their part to complement physical cash and bank reserves.<sup>10</sup> Such central bank digital currency can be exchanged "peer to peer" in a decentralized manner. This is actually the new current experiment with central banks.

Central banks around the world are experimenting with the Central Bank Digital Currency. A CBDC is a digitized version of a domestic currency where a central bank issues new money equivalent to, and redeemable for, its domestic currency, using DLT technology. There are "retail" CBDCs for peer-to-peer payments and payments from consumers to merchants. This form should encourage participation in the banking sector, improve KYC/AML functionalities and prevent illegal activities. CBs in the Eastern Caribbean, the Bahamas and Cambodia are experimenting with it. There are also "wholesale" CBDCs for use by commercial banks and clearing houses for more efficient interbank payments that occur outside of traditional correspondent banking and other payment systems. CBs experimenting with this version include South Africa, Canada, Japan, Thailand, Saudi Arabia, Singapore and Cambodia, while Sweden is evaluating both forms of CBDC, according to BIS research.<sup>11</sup> The Bank of Thailand and the South African Reserve Bank are examples experimenting with CBDCs for efficient interbank payments and settlements. The Eastern Caribbean CB is exploring the suitability of DLT for a number of purposes, from financial inclusion and payment efficiency to payment system resilience in shocks and crises. The National Bank of Cambodia in the second half of 2019 will be one of the first to use blockchain technology in its national payment system for use by consumers and commercial banks and will test financial inclusion.

Another incentive for the implementation of the CBDC is the preservation of the independence of the central bank. Namely, CBDC can help counter monopoly power where strong network externalities can

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<sup>9</sup> Chakravorti, S. and Victor, L., 2006. "Payment instrument choice: The case of pre-paid cards". *Economic Perspectives*, 2Q, 29-44.

<sup>10</sup> Tapscott D, McQueen R. *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*. New York, NY: McGraw Hill (1996).

<sup>11</sup> BIS. 2020. Central Bank Digital Currencies : Foundational Principles and Core Features. Bank of International Settlements. <https://www.bis.org/publ/othp33.pdf>

be granted to private payment networks, reduce transaction costs for individuals and small businesses that have little or expensive access to banking services, and the ability to transact over long distances relations. Unlike cash, CBDC will not be limited in its number of denominations. From a monetary policy perspective, a CBDC profit rate would help in the transmission of interest rate policy to the rest of the economy when the demand for reserves decreases.<sup>12</sup> The use of CBDC will allow CBs to continue to earn income from issuing currency, which means the ability to finance their operations and distribute profits to governments.

Referring to the transmission of monetary policy, the fact is that today's CBs usually influence asset prices through the so-called open market operations. What if these banks become less relevant, can the transmission of monetary policy remain effective? It will be necessary for central banks to increase the number of partners in their operations. For example, the CB of England solves this by involving partners such as large broker-dealers and central clearing houses. All of this has regulatory implications. More partners means more firms will fall under the central bank's regulatory umbrella - which is the price they have to pay for liquidity in a crisis. What is the future - is an open question. The competences of the Central Bank will grow, but so will public supervision and political pressure. Thus, when setting the monetary policy, cooperation is key. Dialogue is more than necessary between experienced regulators and fintech newcomers, between policymakers, investors and financial services firms, and between states.<sup>13</sup>

That is why the IMF with a membership of 189 countries is considered the ideal platform for these discussions, ensuring economic and financial stability with a strong role in the financial safety net. In this context, Christine Lagarde points to the CB to continue implementing an effective monetary policy through openness to new ideas and new demands, as economies evolve implying openness to change, from bringing new parties to the table, to taking into account the role of the digital version of special towing rights. There are de facto choices and policies being exchanged, which require an analysis of CBDC advantages including avoiding any additional risk to the bank caused by the convenience of digital cash.<sup>14</sup> Therefore, regardless of the breadth of ongoing research, conclusions for most central banks have yet to be drawn and drawn on a country-by-country basis. In the balance of benefits and risks, it should be said that in some cases, CBDC has the potential to improve current systems. But in other cases many central banks may find that it is not worth the investment (the Central Bank of Denmark). Also, over the next four years, we should expect to see which central banks will decide to use blockchain and DLT technologies to improve their processes and economic well-being. Although attitudes will vary from country to country depending on the circumstances, e.g. the degree of financial and technological development, as a member of the IMF we have responsibility and are part of the process of shaping a technological and economic future that works for all of us.

In this segment, it is necessary to emphasize the role of central banks and the emergence of digital currency of central banks. In fact, it is the central banks that have to decide whether issuing their own digital currency makes sense in their context. In making this decision, central banks will need to consider not only consumer preferences for privacy and possible efficiency gains – in terms of payments, clearing and settlement – but also the risks it may entail for the financial system and the wider economy, as well as any implications for monetary policy. Some of the risks are currently difficult to assess. Very little can currently be said about the cyber resilience of a central bank's digital currency. This shows that in such a context, the current regulatory framework precedes the emergence of FinTech companies. Therefore, changes are present in many developing countries, including Macedonia. This means that in light of new FinTech risks, current supervisory frameworks will evolve in a way that

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<sup>12</sup> BIS, 1996. *Implications for Central Banks of the Development of Digital Money*. Basel: Bank of International Settlements.

<sup>13</sup> Auer, R., G. Cornelli, and J. Frost. 2020b. Rise of the Central Bank Digital Currencies: Drivers, Approaches and Technologies. BIS Working Papers 880: 1–41. <https://www.bis.org/publ/work880.pdf>.

<sup>14</sup> Bordo, M. D., and A. T. Levin. 2017. Central Bank Digital Currency and the Future of Monetary Policy. National Bureau of Economic Research Working Paper Series 23711 (1): 1–30. doi: 10.3386/w23711.

ensures adequate oversight of banking and non-banking activity, as well as new payment systems based on DLT solutions while avoiding stifling innovation. Different countries may follow different supervisory regimes, which include direct supervision of new market players, subsequent establishment of innovation hubs, accelerators and regulatory bodies.

A certain part of the population and companies need alternative financing, despite the fact that the same is with higher costs, but citizens know that they will receive the necessary funds in a fast and efficient way when they need it most. At the same time, according to comparative measurements and surveys, credit approval procedures by domestic banks are complex and long. Perhaps this is one of the reasons for the growth in demand for loans from financial companies, whose procedure is simple and with minimal documentation, but still using an advanced system of assessing the creditworthiness of customers.

Key regional challenges include the difficulty for firms and regulators to coordinate operations in small and fragmented markets, within the constraints of complex foreign exchange rules. There is moderate to high market concentration in the financial sector, which limits levels of competition and innovation. Banks in the Western Balkans tend to compete more on margins and interest than on user experience or ease of use; value propositions that often differentiate fintech services. As the banks are dominantly owned and headquartered outside the region, national branches may struggle to develop innovative local solutions, due to their context within the structure of their banking group. However, there are a number of successful bank-fintech provider partnership schemes. The result is that certain services, for example payments, remain expensive for consumers and MSMEs, while e-commerce is underdeveloped; negative impact on the wider MSME economy.

Regional regulatory frameworks are not explicitly tailored to the fintech sector. Regulators take an 'entity' or "sector" based approach, which can lead to a lack of certainty for firms with new business models looking to operate in the region. As the promotion of competition and innovation is not a formal legal objective for most, the creation of innovation hubs and sandboxes may not be within the purview of regulators, except in the Republic of North Macedonia and Montenegro. Several overarching regulatory frameworks need to be further strengthened or clarified in relation to fintech: AML/CTF, digital identification methods, consumer protection, data protection, cyber security and open banking.

Although fintech markets in the Western Balkans are currently relatively small by global standards, the rapid pace of technological development and technology-enabled financial transactions could lead to significant growth in these markets in the near future. The inherently cross-border nature of some of the FinTech activities and their consumer acceptance means that authorities across the Western Balkans need to carefully consider the risks to their regulatory objective and consider appropriate, proactive and 'future-proof' at an early stage. Analyses show that a review of the regional fintech market is needed, listing important regulatory and policy implications of fintech and; proposing a set of regulatory and policy interventions, with a regional emphasis that can act to catalyze technology-enabled financial and regulatory innovation.

## **6. FinTech and Banks**

The issue of the impact of financial innovations driven by fintech companies finally came into the spotlight among banks from Central and Southeastern Europe, which resulted in discussions at the 7th meeting of governors from the region. It is inevitable that better and more competitive financial services put pressure on banks as traditional financial institutions to offer innovations for their customers. In developed economies, this has reached the stage of concluding a "partnership" between fintech providers and traditional financial institutions.

What does this "partnership" look like?

If we take El Salvador, they have the so-called MoMo is an e-money issuer and payment service provider (with more than 180,000 users and 400 agents) that has been cooperating with the state-owned Agricultural Development Bank since 2015. Bank customers use MoMo agents to perform transactions, including deposits and online payments. They built on this successful collaboration in August 2018 by

announcing that money transfers can now be done via e-wallet. A similar example is Honduras, whose Tigo Money is an e-money issuer operated by mobile operator Tigo. In May 2018 Tigo Money and BanPais Bank announced a partnership that allows customers to link their BanPais bank accounts to their Tigo Money e-wallets. Customers can access their bank accounts via mobile phone and transfer funds from their accounts to their e-wallets to perform transactions and make withdrawals from Tigo agents.

In Cameroon, however, there are two leading providers (MTN and Orange) of mobile money where according to regulations e-money issuers have to partner with banks. Notably, three years ago Orange even launched a Visa debit card that allows customers to make purchases and withdraw funds from their mobile money accounts through an ATM. Undoubtedly, this "partnership" deepens relationships and expands services offering benefits to both customers and service providers.

The current focus of developed countries where not only banks but also the government use it for the most massive use of digital financial services, and thus financial inclusion, is to create appropriate regulation for agents that are a key factor to catalyze growth in digital financial services, from on the one hand, and improvement of supervision, on the other.

When it comes to supervisory capacity for financial inclusion and digital financial services, Jordan, Peru, Rwanda, Russia and South Africa are countries that have included technical expertise in the supervision of non-banking financial institutions as well as offering training to regulators. Other countries that are joining with increasing intensity are the Philippines, Tanzania, and even Brazil, which in turn uses the blockchain technology of Jordan, Peru, Russia, Rwanda, and South Africa for electronic supervision. Panama is an interesting example that has adopted XRBL, which is an open international standard for digital business reporting, for the exchange of financial and non-financial information.

Although for now the number of countries that do not use technologies for digital supervision is greater, it is clearer than anything else that financial technologies will develop the markets, and thus they will become more complex. This forces effective oversight tools to become imperative for regulators, as although the market for providers that are not regulated as financial institutions offering financial services will absolutely affect the financial system, posing a risk to stability and integrity.

The issue of intermediation that actually involves the agents mentioned above is also a new problem in the world of digital finance for several reasons... In digital finance, this problem exists because of the profit maximization goals of DFS providers (digital finance service). services) and the goals of maximizing the welfare of DFS users. On the supply side, private and public partnerships in providing digital finance can play an important role in digitizing a country's economy. Of course, private partnership is driven by profit maximization initiatives, while public partnership by the idea of welfare maximization, which also raises intermediary problems. DFS providers may exercise their discretion to pursue strategies that enrich themselves at the expense of digital finance users through their choice of profit-maximizing digital financial services, rather than welfare-maximizing DFS. DFS providers can generate huge profits by increasing their revenue for the services they provide. For example, banks, non-banking financial institutions and Fintech firms are leading the push for digital financial inclusion in an effort to reach billions of new customers by offering digital financial services on the mobile (or digital device) itself to the disconnected and underserved. population, of course in exchange for a certain financial compensation.<sup>15</sup>

Leader countries in this area show that intermediation problems can be reduced if digital finance users are involved in the decision-making process in terms of what digital financial services they want and don't want. It is then clear that the conflict of interest will shift from "Profit-maximizing digital providers vs. Users of digital finance "welfare seekers" to "Competition among digital financial providers" which implies a collective attempt to maximize the well-being of users at minimum costs.

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<sup>15</sup> Afonasova MA, Panfilova EE, Galichkina MA, Lusarczyk B. Digitalization in economy and innovation: the effect on social and economic processes. *Polish J Manag Stud.* (2019) 19:22–32. doi: 10.17512/pjms.2019.19.2.02



Once the conflict of interest has been successfully shifted to "competition among financial service providers", top management (at each of them) will have to take actions that will create better value for DFS users.

The partnership between fintech companies and banks is an already implemented formula that bears fruit, but we must not leave out the fact that all developed countries in their platforms, in addition to connecting banks, implement the platforms with the direct participation of e-Government and the concept of interoperability. It is also not new that central banks in several countries have taken important steps to open up national payment systems, ensuring that old and new, big and small players can access and transfer funds across platforms.

### **7. The shaping of international finance in 2023**

The beginning of the year is always a good time to consider the key themes set to drive European Union politics in the current year 2022 was, by any measure, a difficult year in Europe considering the continent's war, inflation, energy security and other phenomena. These problems are not going away and will continue to dominate the political scene. Therefore, 2023 is expected to be an important year for the financial services sector and its policy makers.

In 2023, policymakers will feel the pressure to act. Consequently, companies should be prepared to act to influence the process, whether directly or indirectly. When it comes to competitiveness, economists predict that despite some warming of relations in 2022, the shadow of Brexit continues to loom over both the EU and England, and competitiveness between jurisdictions becomes a key concern. In England, the Financial Services and Markets Act will provide regulators with a secondary objective to review England's competitiveness.

In the EU regulation, the aim is to provide the single market with "open strategic autonomy". This intends to increase the efficiency of the single market and the competitiveness of EU firms, while not relying on "third countries". The EU is seeking to make visible progress on its Capital Markets Union agenda, with technology and data being important features in the EU's regulatory work in 2023. A regulatory focus on competitiveness may sound appealing, but memories remain of the financial crisis, before which competitiveness was a regulatory goal, so there may be reluctance to embrace it. Also, regulators do not have a large track record of promoting data innovation and change when it comes to Europe, so this will need to be watched carefully.

In terms of crypto, 2022 has been dubbed as yet another crypto winter with huge falls in the value of crypto currencies and some high-profile failures in the sector, including FTX and Terra. This has led to a dilemma for policy makers in Europe. The focus on competitiveness means some want to welcome this innovative technology that many people continue to believe has an exciting future. However, risk to investors, financial stability, and even the ability to monitor and control the money supply are causing sleepless nights for some institutions. The EU, as usual, is ahead of the international game when it comes to producing regulation. Its flagship regulation, MICA, has been agreed and is ready to be passed into law. The EU has also advanced its work on digital currencies, and the ECB is currently putting together a group to develop regulations. Similarly, England is preparing a consultation on the regulation of crypto assets and digital currency. Apart from the new powers around financial promotions, no new regulation is expected in 2023. De facto, 2023 will be the year in which direction is set.

Whether the EU and England will adopt similar approaches remains to be seen. A competitive environment may emerge where each jurisdiction wants to be at the forefront of, for example, blockchain adoption or central bank digital currency. This can introduce risks around intended consequences, where regulatory approaches are not properly analyzed in the rush to move forward. There could also be excessive caution limiting the sector's development in Europe. It will also be interesting to see how the European Union and England overcome the dichotomy of regulators, who will be very concerned about risks, versus those who want an environment focused on innovation.

In an environment where public finances are suffering severe stress, governments are focused on how private sector finance can be used for public policy purposes and how investors can be sure that their

money is being used for such purposes. This is most evident in climate change regulation where an impressive array of EU rules, including taxonomy and disclosure requirements, is becoming a huge compliance challenge for many firms operating in the European Union. Analyzes show that England is pursuing its own agenda and developing an ambitious approach where divergence from EU rules creates its own challenges.

The change in regulation in the European Union and England will create risks, burdens and opportunities for the firms that fall within the scope. The new disclosure requirements are likely to be difficult to meet, but the change in investment rules may play to the strengths of certain businesses. Firms need to get to know and convince policy makers to understand what is practical and effective for them. One focus for regulators will be on how to reduce levels of financial crime and keep investors safe. Investor losses caused by the fall in cryptocurrency prices have been part of the story, but there have been a number of scandals of lapses that have gone against regulators and thereby shaken investment confidence. In the EU, there is a package of measures under development that refers to the prevention of money laundering. The aim is to ensure a more harmonized approach across the single market and also to create a new EU-wide regulator to improve supervision. This will likely mean increased compliance costs and deeper analysis for those affected.

## **8. Conclusion**

Advances in information and communication technology have enabled the development of new forms of electronic payment, both in the real world with cards and in the virtual world (software products). The reason for the increasing prevalence of these products is precisely their great perception in relation to the traditional method of payment. However, statistics confirm that the evolution of e-money is in its infancy and that cash is still the most important payment method for retail transactions. Cash has not yet been replaced by any form of electronic payment. One of the reasons is precisely the fact that e-money is a rather sophisticated payment method that requires some investment in new technology among retailers, as well as developing new experiences among users. Therefore, the use of electronic money does not extend significantly.

Considering the success of cryptocurrencies, there is an opinion that consumers, consortia or large financial institutions will not be successful in launching cryptocurrencies. Furthermore, it is believed that its success will be greater if digital currencies are launched by central banks. So, we should think about using this tool for greater efficiency for the world economy, support rather than understanding them as an opportunity to disrupt the financial system. In detail, the central bank has the power to bring participants together and will increase the attractiveness of fiat money for exchange in clearing, payments and settlements. At this point, some experts have raised two questions according to cryptocurrencies and central banks. The first is related to the depth and precision of the policy and economic implications of launching a central bank-issued cryptocurrency. The second edition is focused on the impact of central bank-issued cryptocurrencies on the banking system.

The events of 2022 have shown that energy security and costs are Europe's top priority. In that direction, politicians reacted quickly to support markets and consumers. When it comes to financial services, there are three main concerns. First, whether investments can be increased to reduce dependence on fossil fuels in general, and Russian gas in particular. Second, markets to be delivered efficiently for European consumers. Third, could turbulence in the energy market lead to turbulence in financial markets, as seen in markets such as the London Metal Exchange.

The first concern has increased the urgency around creating a regulatory framework to increase investment in non-fossil fuels. Regarding the second point, the effort for direct intervention of the authorities in the markets is increasing, especially in the EU. This is undesirable for those firms active in energy markets where price caps and publicly produced financial instruments (such as price benchmarks) are likely to distort markets and may undermine confidence if not properly matched.

As for the third concern - about the risk of shifting from energy markets to financial markets - it is likely to be a challenge. This is meant especially for those firms that prefer to avoid operating under the burden of financial regulation. Without proper calibration, the new measures are likely to increase the cost of operating energy markets and lead to higher energy costs.

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