Financial Regulatory Technologization in the Context of Europe`s Digital Decade

Assoc. Prof. Dr. Nedyalko Valkanov
University of Economics - Varna, Varna, Bulgaria
n.valkanov@ue-varna.bg

Abstract

The European Commission (EC) announced the Digital Decade as a vision for digital transformation of Europe by 2030 in four directions: skills, infrastructures, business, and government. Meanwhile, there is also an increasingly strong dependence of the financial sector on various technological innovations. Regulatory technologies in this regard play a key role in ensuring compliance with the ever-complex financial regulatory framework. The article analyzes the current state and prospects for the financial supervision system from the perspective of the European digital strategy. Emphasis is placed on the possibility of implementing smart technologies in the prevention of various financial violations and the formation of new levels of partnerships between financial institutions, regulators and RegTech firms as providers of regulatory expertise.

Keywords: innovations, regulatory technologies, digital finance, compliance.

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Introduction

The impact of technological advances in informatics and communications on the financial sector has been noticeable for decades. The latest innovations in the field of artificial intelligence, big data and blockchain technologies are no exception. Their expansion in recent years has brought about conditions for reshaping the landscape of creating and distributing financial services. The emergence and rapid establishment of new fintech and bigtech players are only a superficial illustration of more fundamental processes related to the dilution of classic institutional structures established over the years and the increasingly distinct positioning of hybrid providers of payment and credit services, platform models and decentralized financial services.

Against this background, the innovation lag on the part of financial regulation seems inconceivable. The technologization of activities in the field of financial regulations can be considered both from the point of view of the tools of the supervisory bodies themselves, and through the prism of the processes of ensuring regulatory compliance by the financial institutions themselves, which increasingly outsource supervision activities to external providers of regulatory expertise – the so-called RegTech companies. What is more, there is a growing entanglement between classic financial intermediaries, fintech companies and all other alternative financial institutions on the one hand, and companies developing and offering regulatory technology solutions. This cooperation can also be regarded as an initial step towards the formation of platform environments ensuring regulatory compliance. These processes run in parallel with the vision of the European Digital Decade announced in 2021, whose ambitious goal is to bring about a digital transformation in the EU.

Our study paper highlights the key features of emerging technological ecosystems for effective compliance with the participation of regulators, financial institutions and RegTech companies. The question of whether the scope and objectives of the European Digital Decade plan can be an additional incentive for the development of the above-mentioned forms of regulatory cooperation has been raised for discussion. Some arguments have been presented in support of the statement that the new European regulations in the field of artificial intelligence, blockchain and data protection have a direct impact on the technological innovation of activities in the field of financial regulation.

1. Today's financial ecosystems – complexity, interdependencies, and vulnerabilities

According to a 2022 World Bank forecast, the share of the digital economy is expected to reach 25% of global GDP in less than a decade (The World Bank, 2022). Given that the basic role of financial relations is to serve business operations in the sphere of the real economy, the expansion of financial technologies is a logical consequence of the general process of mass integration of the latest technological innovations in practically every financial activity. Of course, events such as remote work necessitated by the COVID-19 pandemic are an additional incentive for various online-based methods of carrying out financial operations remotely. It is the mass penetration of new online channels for access to financial services that makes it possible for small and innovative companies, popularly referred to as *fintech*, to be admitted to the otherwise conservative financial sector with traditionally high barriers to entry (strict licensing rules, high requirements for minimum capital, liquidity and reserves, etc.)[1].

The initial focus of high-tech financial services providers alternative to traditional financial institutions was on payment operations (one example is the company PayPal – one of the pioneers in this field), but their product portfolio undergoes constant expansion. For example, today, in addition to payment services, fintechs offer a number of other services such as virtual and mobile wallets, lending, insurance, asset and wealth management, financial products for business customers and many others[2].

Also gravitating towards this ecosystem are the so-called *challenger banks*, which include banking institutions (such as Revolut, Monzo, Starling Bank, Atom, Chime, N26, WeBank, etc.) that have been issued a banking license but operate entirely in an online environment. Fintech companies operating as *neo-banks* enjoy a lighter licensing regime and most of them are registered as electronic money companies or payment institutions, mainly focused on payment operations. A stimulus for their development in the EU is the second version of the Payment Services Directive (PSD2), which entered into force in 2019 and institutionalized the *open banking* regime – a mechanism providing third parties with access to the financial data of bank customers using application programming interfaces (APIs).

With the appearance of Bitcoin in 2009, a conceptually new branch in the financial product classification was started – that of financial assets based on decentralized blockchain technology, including cryptocurrencies and other virtual assets (tokens). All of these are created and traded through platforms that fall under the fintech category. It is important to note that it is these alternative financial platforms that facilitate access for small individual customers – a process known as the "decentralization of finance" (DeFi).

A kind of alternative to fintech are the so-called BigTechs – the largest technology companies (Meta, Apple, Microsoft, Amazon, Alphabet, Baidu, Alibaba and Tencent), which, in addition to payment services, also offer an increasing number of traditional financial services. Their most significant advantage is their access to large customer bases. For example, the financial ecosystem of the Chinese Ant Group (a subsidiary of the conglomerate Alibaba Group) offers a

[1] The lack of consensus regarding the dating of the first fintech initiatives should be pointed out. According to some opinions, they are associated with the appearance of bank cards in the 1950s, while others hold that the global introduction of the telegraph in the second half of the 19th century can also be regarded as financial technology in the sense of the modern understanding of this concept. If the understanding of financial technology is limited to the use of computer networks, then the beginning of fintech could be linked to the first electronic communication networks (ECNs) in the US, whose use in over-the-counter securities trading dates back to the 1960s. An even greater narrowing of the understanding of fintech ties these technologies to online commerce, whose beginning was set in the 1990s.

[2] Just as there is no common understanding of the beginnings of fintech, there is no common classification of the product categories offered by this segment. According to the annual report of the Bulgarian fintech association, in 2022, 156 fintech companies were operating in our country in the following areas: Digital payments, Digital asset exchange, Digital lending, Enterprise technology provisions, Digital identity, Digital custody, Regtech, Insurtech, Alternative credit and data analytics, Wealthtech, Digital banking, Digital capital raising and Fintech supporting companies.

palette of financial services, including payments, deposits, insurance, and asset management, which are accessed by 1.2 billion customers or 21% of the world's adult population (Zetzsche et al., 2020: 4). Often, the financial solutions distributed by BigTechs are created in cooperation with classic financial institutions (e.g., banks or insurance companies) or fintech companies.

The integration of various financial products (the so-called embedded finance) with social networks, online trading platforms, video content, games, etc. can be seen as another step of the transition to a platform financial system (finance as a platform), where the key role is played not by individual institutions – creators and providers of services, but of the relevant financial function, whose realization is shared between two or more participants in the platform. In this regard, the most important thing should be the value added by each individual participant in the platform, regardless of their organizational identity. Some authors (Avgouleas and Seretakis, 2022) very aptly define this process as a digital value chain in finance.

The current trends mentioned above can be summarized as follows. *First*, the entry of new participants in the process of creation and distribution of financial services is observed – fintech companies and BigTechs. *Second*, digitalization is stimulating the establishment of hitherto unknown levels of partnership between traditional financial institutions, quasi-financial companies and fintech. Even though the traditional financial institutions initially remained aloof from the field of the emerging fintech industry, their rapid reorientation followed. The latter is expressed both in the formation of collaborations (outsourcing of activities, joint offering of products, adoption of strategies) and in acquiring the business of individual fintech companies. *Third*, the emergence of conceptually new financial products created within the alternative DeFi segment is observed.

The implementation of technological innovations in financial practice is also accompanied by an increasingly pronounced tendency of increased risks of non-compliance, misconduct, theft of personal data, leakage and misuse of personal information, etc. According to some opinions, digital finance also poses a challenge to financial supervision, due to the fact that the number of financial products and the parties offering them grows very quickly, and the financial transactions themselves are also carried out at a very fast pace (de Paz, 2023: 149). Newly emerging risks in this regard lead to granulation of operational risk, where all risks not arising from the principal business of financial institutions are traditionally included.

An example of an emerging risk is fraud committed using a synthetic identity – the creation of a fake customer identity by combining stolen personal identification information with other forged personal information, which in recent years has become a leading threat when accessing financial services online[3]. The possibilities of creating deep fake online content (including through the use of artificial intelligence) are becoming an ever-greater challenge to effective prevention in this direction. It is no coincidence that the focus of the well-known Know Your Customer (KYC) customer verification policy in the post-9/11 years is shifting towards Know Your Data (KYD).

Although the volume of decentralized finance (which category includes cryptocurrencies and related virtual payment systems) is significantly inferior to traditional payment systems using fiat currencies, the revenue generated from crypto-asset fraud is measured in the billions[4]. We should point out that the first regulations in this field (e.g. the renewed "Travel Rule" of the Financial Action Task Force (FATF) or EU's Markets in Crypto-Assets Regulation (MiCA)) are already in place, but they focus mainly on customer identification for the needs of the prevention of money laundering and terrorist financing.

From a purely technological perspective, the architecture of blockchain networks can be viewed from two sides in terms of their vulnerability to fraud and theft of funds from wallets. On the one hand, blockchain constitutes an extremely reliable mechanism for protection against manipulation of the information contained in it, offering traceability of every single operation. On

[3] Cybersource's Global Fraud and Payments Survey Report 2022 states that in 2022, the most popular forms of online payment fraud include phishing attacks, payment card data fraud, identity theft, etc. (Cybersource, 2022: 14).
[4] According to the specialized website Chainanalysis, its amount exceeded $20 billion in 2022 (Chainanalysis, 2023: 5).

the other hand, however, the existence of thousands of virtually unregulated cryptocurrencies, including those that are untraceable (e.g. Monero or Zcash) allows transactions to be carried out by anonymous users[5].

2. The rise of regulatory technology

The change in the financial landscape described above occurs during a continuing tightening of the existing regulatory regime, a process that began immediately after the global financial crisis of 2008. In addition to increased capital and liquidity requirements (introduced as early as 2013 with the Basel III new minimum capital requirements and the requirements for eligible liabilities for resolution needs - MREL, which will enter into force in the beginning of 2024), the risk treatment of financial instruments (the new financial reporting rules IFRS 9), a number of regulatory changes are also observed in relation to anti-money laundering measures (there is the 6th European Anti-Money Laundering Directive as well as the updated "Travel Rule" of the Financial Action Task Force), the protection of personal data (GDPR), consumer protection in the financial markets investment (MiFID) , the introduction of open banking (PSD 2), etc.

All this makes securing effective compliance a challenge. In this regard, the following reasons contributing to this can be systematized: great dynamics in the legal framework, but also continuously registered cases of misconduct; global nature of modern financial activity; politically motivated (sometimes for purely populist motives) complication of the regulatory framework in relation to the financial sector; need for cross-sector efforts (similar to cyber security); lack of direct financial return on compliance investments; on the other hand, the lack of a functioning compliance system can become an existential threat to the relevant financial institution; a functionally complex matter related to covering heterogeneous regulations – personal data protection, anti-money laundering measures, customer protection, tax regulations, etc. (Barberis et al., 2019).

A Thomson Reuters study conducted among a representative sample of global financial institutions (including banks, insurance companies, securities brokers and dealers, payment service providers, etc.) reported that the expectations of 55% of respondents are for the compliance budgets of the institutions they represent to grow in 2023, a trend that has been maintained in the last ten years (Thomson Reuters, 2023a: 17).

Against this background, the emergence of specialized providers of regulatory expertise in the form of regulatory technology (RegTech) companies seems logical. According to the popular definition of the British regulator Financial Conduct Authority, RegTech means "a subset of fintech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities" (Woolard, 2017).

Despite their huge number and varieties, RegTechs' product portfolio can be systematized into several profiles: provision of basic compliance solutions related to meeting basic regulatory and supervisory requirements; operations monitoring products – monitoring and analysis of the interrelationships in bank transfers, card operations, in securities transactions, for the needs of combating money laundering, financing of terrorism and avoidance of sanction regimes; solutions related to customer identity verification, the need for which is becoming critical with the introduction of the PSD 2 regulation, the emergence of open banking and neo-banks[6]; risk management modules for the widest range of financial segments; regulatory disclosure and

[5] Cryptocurrencies are a convenient mechanism for paying for embargoed goods and carrying out financial operations with counterparties in violation of sanction regimes. In 2022, US regulator OFAC sanctioned Tornado Cash and Blender.io for money laundering allowed to take place on their platforms. Specifically, is was a matter of laundering $660 million in cryptocurrencies stolen by the North Korean hacking group Lazarus Group. According to UN statistics, 20% of terrorist financing in 2022 is realized through cryptocurrency operations, compared to only 5% a few years ago (Shukla, 2022). The recently started war of "Hamas" against Israel again illuminated this problem. According to some estimates, 43% of illegal transactions in blockchain networks are related to sanctioned entities (Chainanalysis, 2023: 5).

[6] An example is the Bulgarian company Evrotrust, which provides authentication services for some of the largest financial institutions in our country.

reporting based on automated modules for generation of a variety of statements, reports and other periodic filings required by supervisory bodies; modules for automated tracking of regulatory changes and advice on their implementation, etc.

Some authors (Barberis et al., 2019) share the view that the RegTech category encompasses the application of technology in the context of any regulatory process and ensuring compliance across a wide range of regulated fields such as industry, medicine, environment, etc. In this regard, another difference between FinTech and RegTech comes to light. While the rise of FinTech companies has been fuelled by numerous emerging startups in direct competition with traditional financial institutions, the entry of RegTech firms is in response to an institutional demand for top-down regulatory expertise as a result of rising regulatory compliance costs[7].

Similar to the evolution of fintech, there are differing opinions on the exact time of the emergence of the RegTech sector. According to the more widely accepted opinion, several successive stages in the development of this segment can be distinguished. The first of them (RegTech 1.0) covers the period between the 1990s and the beginning of the new millennium. It is related to the fact that at that time financial institutions began to apply new technologies to monitor and analyze the risk arising from specific regulations or processes[8]. The last decade saw the second stage of development of regulatory technologies (RegTech 2.0), which is characterized by the implementation of various tools supporting regulatory compliance and meeting supervisory requirements. Most of these tools focus on the know-your-customer (KYC) policy, improving customer protection and countering misconduct. In recent years, it has been argued that the RegTech industry is on the verge of the next step in its evolutionary development (RegTech 3.0), which will be characterized by a shift from "know your customer" to "know your data" policies, as financial institutions begin to consider risk as an issue directly related to data processing and analysis (KPMG, 2018: 6).

According to some authors (Arner et al.), as RegTech 2.0 is largely characterized by the streamlining and automation of regulatory compliance and reporting, it is adapted to rules developed to fit an already outdated technological context. From this point of view, RegTech 3.0 should integrate current innovations related to the use of artificial intelligence and blockchain technologies, which in turn require a rethinking of regulation (Arner et al., 2017:411).

In this regard, an analogy can be made with the concept proposed by Auer (2019) for built-in oversight of decentralized financial markets (DeFi) by sharing blockchain databases between market participants, regulators and other government authorities[9]. RegTech is also present as an integral part in the concept of a platform compliance model, which illustrates the system of incoming and outgoing interconnections between compliance activities in financial institutions and the other components of the external and internal regulatory environment (Valkanov, 2019: 171). Moreover, the aforementioned new levels of partnership can with certain assumptions also be perceived as a kind of mega-platform ecosystem, integrating technology giants, fintech companies and traditional banking institutions[10]. Reciprocally, its regulation necessitates the design of a mirror regulatory platform vision.

From the point of view of regulators, RegTech provides the means to move to a risk-based proportionate approach to effective supervision based on adequate data management. This minimizes the risks of regulatory capture seen in the run-up to the 2008 GFC18, as well as a number of other emerging risks (Arner et al. 2017: 375)[11].

[7] For more, see Barberis et al. (2019), pp. vi-ix.

[8] One example is the Aladdin platform (Asset, Liability, Debt and Derivative Investment Network) of the investment company BlackRock, developed in 1993.

[9] For more, see Auer (2019).

[10] For more on emerging partnerships in the financial sector, see Vachkov and Valkanov (2021).

[11] Arner et al. argue that if regulators have direct access to financial data from supervised companies, this will allow them to form a more adequate own assessment than if they rely on company reports (Arner et al. 2017: 375).

The rapid development of the RegTech segment is also evidenced by the statistics of Fortune Business Insight, according to which in 2022 the global revenue in this segment amounted to $10.47 billion with a forecast that by 2030 it will grow six times to $60.77 billion. Over 30% of this volume ($3.62 billion) is accounted for by RegTech firms operating in the US (Fortune Business Insight, 2023). In turn, by 2021, there were 140 RegTech start-ups operating in the EU, 30% of which specialized in compliance management, 27% in customer identification product development (KYC) and anti-money laundering (AML) automation, and 26% in Risk Management Technologies (Bhattacharya, 2021)[12].

3. Regulatory technologies in the context of the European digital decade

The *European Digital Decade* announced in 2021 outlines a vision for the digital transformation of Europe by 2030. The plan is based on four key pillars: 1) information and communication technology skills; 2) business transformation; 3) secure and sustainable digital infrastructure; 4) digitalization of public services. The aim is to contribute to improving the EU's positioning in the field of digitalization and digital connectivity, where it lags behind the US, China and other Asian countries[13].

The European Digital Decade agenda can be seen as an overall framework to guide the set of actions related to digital technologies with the main task of ensuring that all aspects of technology and innovation are of public benefit[14]. These objectives are envisaged to be achieved through large-scale multinational projects designed to facilitate the achievement of the Union's digital transformation and industrial recovery goals. They aim to bring together European, national and private resources to achieve progress in critical areas that no member state could achieve alone (European Commission, 2023: 3)[15].

The planned objectives do not explicitly mention activities in the field of financial regulatory technologies. However, some indirect evidence can be found that the European Digital Decade plan creates an additional incentive for the development of the RegTech industry. First of all, its goal of synchronizing the operation of innovative infrastructures directly affects the aforementioned forms of partnerships between traditional financial institutions, fintech companies and BigTech companies. In addition, the envisaged stimulation of competition in the digital world can be pointed out, where the already existing regulation PSD 2 and the open banking introduced through it can be given as an example.

A second argument for the potential benefits of integrating RegTech in the scope of the digital decade plan is the contemplated cooperation with the private sector. The currently observed forms of cooperation between financial institutions, fintech, RegTech companies and financial

[12] According to Bulgarian Fintech Association data, in 2022 there were 5 companies operating in the field of RegTech in our country. For more, see: https://fintechbulgaria.org/annual-fintech-report-2022.

[13] A study by the European Investment Bank states that in terms of adoption of digital technologies, European companies are lagging behind the United States. The study found that only 66% of manufacturers in the European Union had adopted at least one digital technology compared to 78% of companies in the United States (European Investment Bank, 2020: 1). This finding can also be attributed to the lag in terms of allocated costs for research and development activities in the field of technology. In 2020, these costs amount to 200 billion euros in the USA, 64 billion in China and 40 billion in the EU (Babinet and Coste, 2022).

[14] The tasks set by the EC in this regard are: ensuring a safe and secure digital world; equal access to digital technologies; ensured access to data for small businesses and industry; helping start-ups and SMEs access digital technologies; synchronizing the operations of innovative infrastructures; fair competition conditions for SMEs in the digital world; easy online access to public services; focusing research on developing and measuring the impact of sustainable, energy and resource efficient innovations; ensuring cyber security. For more, see: https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade.

[15] These projects are expected to drive investments in the areas of common infrastructure for data and services, blockchain, manufacturing low power consumption processors, 5G mobile technologies, digital public administration, digital innovation hubs, high-tech partnerships for digital skills, and more. For more, see: European Commission (2023).

regulators within the so-called "regulatory sandboxes" (experimental and controlled environments for live testing of individual innovations) constitute precisely such a form of public-private partnership[16]. A parallel in this context can also be drawn with the fourth pillar of the plan, namely with regard to the digitalization of public services. Given that the activities of supervision over the financial sector are carried out by government regulators, the drive towards digitalization in this direction should implicitly extend to include them as well. In this regard, projects related to the development of technological solutions for the needs of financial supervision (the so-called SupTech) should also be beneficiaries of the digital decade program. The above-mentioned regulatory sandboxes represent precisely such incubators in which to test individual high-tech solutions before they are implemented in the practice of financial regulation.

Cybersecurity can be considered as the third direction in which the objectives of the digital decade intersect with the practice of the RegTech segment. Currently, a significant part of companies operating in this field are developing solutions related to cyber risk prevention. Moreover, a 2023 Thomson Reuters survey cited cyber resilience as the third most likely area of collaboration between RegTech and the financial sector (after financial crime prevention and data collection, management and use) (Thomson Reuters 2023b: 18).

Other objectives set in the European Digital Decade plan can also be considered as a potential for the development of the RegTech field. For example, the creation of a common infrastructure for data and services and the application of blockchain technologies in various public spheres would largely integrate the financial infrastructure, including the providers of regulatory expertise in the form of RegTechs. Successfully completed tests of blockchain-based regulatory infrastructure by individual financial supervisory institutions (for example, the UBIN project of the monetary authorities of Singapore) are grounds for more and more such initiatives in the near future. The reason for this is the start-up regulations in the field of decentralized finance and tokenization[17].

One example of the integration of blockchain into the product range of RegTech is the business operations of the company Codefi Compliance. Based on smart contracts on the Ethereum network, it offers an automated and flexible regulatory platform to ensure regulatory compliance in digital asset operations[18]. For its part, the Corda blockchain platform, developed by the company R3 in a consortium with over 200 banks, financial institutions and technology companies, allows secure exchange of information and virtual assets (through smart contracts), as well as maintaining compliance functions. The possibility of implementing shared blockchain databases has been of interest in recent years in the prevention of trade-based money laundering – one of the most topical methods of money laundering through international trade these days. The existence of a large number of non-standardized documents and formats in this activity makes possible their manipulation for the purpose of money laundering. The use of artificial intelligence and blockchain technologies precisely in such prevention is becoming ever more widespread. Some authors (Avgouleasi and Kiayias, 2019) also argue for the realized potential of blockchain in securities and derivatives trading. The benefits of establishing such platform models to ensure compliance can also be considered from the point of view of achieving network effects, namely that each user connected to the network can create added value for all other participants in the platform.

[16] A concrete example in this regard is the launch of a European blockchain sandbox announced by the EC at the beginning of 2023, which in the next three years will support 20 projects per year, including such for connecting with the European Blockchain Services Infrastructure (EBSI). For more, see: https://digital-strategy.ec.europa.eu/en/news/commission-launches-european-regulatory-sandbox-blockchain.

[17] For example, in November 2023, Hong Kong's financial regulator announced its intention to introduce regulations on the tokenization of virtual assets that would have a wider scope and also affect traditional financial institutions owning virtual assets. For more, see: https://www.ledgerinsights.com/hong-kong-regulations-tokenization-rwa/.

[18] Token standards such as ERC20, ERC721, ERC179, ERC777 are used, as well as stablecoins such as DAI, USDC and Tether. They enable AML/CFT regulatory compliance for 280,000 types of digital assets using the Ethereum code. For more, see: https://consensys.io/blog/consensys-launches-codefi-compliance.

From a regulatory point of view, some new financial regulations in the EU hint at the already emerging integration of individual segments of the financial industry into the vision of a European digital decade. The EU Digital Finance Package presented by the European Commission in 2020 contains two key documents that can also be considered as a pioneering regulation in this direction. Specifically, these are the Markets in Crypto Assets Regulation (MiCA) and the Digital Operational Resilience Act (DORA). Among the goals of MiCA is the formation of a unified regulatory framework for the crypto-asset market, including support for innovation, tracking of crypto-asset operations, improved consumer protection, safeguards against market manipulation, prevention of money laundering, terrorist financing and other criminal activities. For its part, DORA envisages the establishment of a regulatory framework for the operational resilience of digital technologies against all types of disruptions and threats related to information and communication technologies, as well as the prevention and mitigation of cyber threats.

In addition to the regulations mentioned above, the analyst company IDC indicates also the following new European regulations in the field of digital technologies with direct or indirect significance both in terms of projects within the framework of the Digital Decade program and the future agenda of the RegTech segment[19]. More specifically, these are: the Data Governance Act, which regulates the exchange of data between individual countries and economic sectors in the EU; the EU Artificial Intelligence Act, which provides an answer to some ethical challenges related to its use; The EU Electronic Identification Authentication and Signatures Regulation (eIDAS), harmonizing the European framework for electronic identification and authentication; the EU Security of Network and Information Systems Directive II (NIS II), introducing sustainable and effective national cyber security regimes; the Digital Markets Act (DMA), which aims to preserve competition in the digital sector by limiting the market power of large online platforms; the Digital Services Act (DSA), protecting the fundamental rights of EU-based users of digital services, etc. (Guedes, 2022).

The expected revision of the Payment Services Directive and the Payment Services Regulation should also be noted. The third version of the directive (PSD 3) is expected to introduce stricter requirements for customer authentication and access to payment systems and account information. More specifically, the revised regulation introduces a system for verifying IBAN numbers and a platform for the exchange of information by payment service providers in order to prevent financial fraud. It is expected that a mechanism will be implemented through which FinTech companies will gain access to EU payment systems.

The main focus of the Digital Decade Plan in terms of regulations is the control over compliance with the information security of personal data and regulations in the field of artificial intelligence. Of interest in this regard is the statement by the head of the US Securities and Exchange Commission, Gary Gensler, that regulators should quickly find a way to manage risks to financial stability from the concentration of power in artificial intelligence platforms. In the same statement, Gensler warned that relying on a few data-driven models could trigger a financial crisis within a decade (Palma and Jenkins, 2023). In this respect, an analogy can be made with the flash crashes that occurred on the New York Stock Exchange in 2010 and 2015, caused by the massive use of algorithmic trading. As a result, the SEC then made adjustments to the regulatory framework to avoid such events. In this connection, the need for European regulations on artificial intelligence, additional to those mentioned above, can be put up for discussion.

Conclusion

The objectives set in the European Digital Decade plan demonstrate the European Commission’s commitment to technological innovation of the European economy and society. On the other hand, the processes of transformation of the financial sector as a result of digitalization

[19] For more, see Guedes (2022).

observed in recent years lead to increasingly distinguishable platform environments, where most important are not so much the participating institutions, but individual innovations in the field of artificial intelligence, blockchain, big data processing, etc. On the one hand, this is a challenge for financial regulators, but on the other, it stimulates their rapid technological innovation. From this point of view, the cooperation on the process of ensuring compliance between financial service providers and regulators within virtual ecosystems fully corresponds with the objectives set by the EC within the framework of the European Digital Decade.

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