

Melnyk Oleksiy

*Graduate Student at the Department of Finance,
Accounting and Taxation*

Dmytro Motorny Tavria State Agrotechnological University

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CYBER PROTECTION OF THE FINANCIAL MARKET OF UKRAINE ON THE BASIS OF TRANSFORMATION OF INNOVATIVE TECHNOLOGIES OF META-SPACE

In the conditions of aggravation of threats to Ukraine during the martial law, the problem of protecting national interests, in particular protecting the financial market, which connects all spheres of the economy, carries out funds storage and credit service to clients through national and currency flows, is becoming an actual issue. The financial market of Ukraine, dependent on external regulatory mechanisms for the protection of the national monetary unit, capitalization and distribution of capital on electronic payment systems, characterized by a high level of cyber attacks and threats of fraud. In the absence of protective information resources, this can cause a loss of financial balance in the payment landscape of financial institutions, and, accordingly, fundamentally destabilize the financial system of the state as a whole. Financial threats often appear as an attempt by criminals or fraudsters to destroy the country's financial system and appropriate resources through actions that appear to be legal and (or) economically justified [7]. There is a conflict of interests in the financial market, which is disguised as the optimization of information media to accelerate the flow of financial resources through electronic payments. Therefore, instant protection of payment transactions in the network of financial institutions is the result of a timely response of the electronic financial regulator to fraud and misinformation regarding the legality of financial flows between users of payment systems [8].

The objectively difficult situation for financial institutions, during the martial law in Ukraine, is aggravated by the fact that the digitalization of financial transactions is carried out at an extremely fast pace, leaving practically no time for adaptation to a fundamentally new reality. These circumstances force the financial market of Ukraine to integrate into the global digital ecosystem, which includes mobile applications, contactless payments, online lending, electronic money, etc.

Cyber protection of information technologies is a complex management technological system of the financial sector, with a set of specific processes and means of security management (protection from certain types of threats or investigations of cyber incidents, to broader ones – the application of configuration standards and security hardening) [1]. Accordingly, the information protection of the financial market requires a complex, clearly planned, phased project for the introduction of Fintech ecosystems. Such a complex combines approaches to identifying threats to the functioning of information systems of financial institutions. It begins with technological protection operations (optimization of the entire IT infrastructure of financial institutions) to possible threats (security of IT technologies of financial institutions), as well as information protection of the entire financial sector – working with management to understand all possible risks of cyber attacks, compliance with legal requirements, use of centralized monitoring tools) and conducting trainings with personnel (data confidentiality, qualification, work with information carriers, operation of bank servers) [2].

The regulatory mechanism of the financial market of Ukraine is carried out according to the principles of synergism and hybridity. This significantly improves the process of cyber protection of payment systems, as a component of the state's national security. It is carried out through the integration of information resources (IR) of the country's financial institutions into the global financial system, which significantly reduces the threat of cyber incidents and creates a platform for the development of Fintech ecosystems, as a network of innovative meta-space technologies. From the standpoint of cyber protection of the financial market, Fintech ecosystems make it possible to determine the

level of service hierarchy for participants and users of the Electronic Payment System of the National Bank of Ukraine (EPS of the NBU) based on a comprehensive assessment of threat objects, namely: information security (IS), oversight security of payment systems (SOPS), payment portfolio security of financial institutions (SPPF) [7]. It includes: building an integrated model of confidentiality, integrity, authenticity and reliability of financial services when information resources are changed, subject to determining the probability of the impact of threats on IS, SOPS, SPPF objects that provide service to participants and users of the EPS of the NBU; indicators of the protection of information resources under the conditions of the oversight of payment systems and the payment portfolio of financial institutions to ensure cyber protection of the EPS of the NBU [7].

Thus, the development of innovative meta-space technologies has changed the financial market of Ukraine. Under the influence of external factors, the digitalization of the ecosystem has begun in all spheres of social life. A significant feature of the modern development of the financial market is the emergence of new players in this market – Fintech companies that are not financial intermediaries, but they use certain technological developments and specialized software to provide a certain type of financial services, replacing traditional financial intermediaries. The dynamic development of Fintech ecosystems ensured the functioning of technologies of distributed access (Blockchain), artificial intelligence, analytics of big data (Big Data) and application programming interfaces, cloud technologies, biometrics and others. In a broad sense, the Fintech ecosystem is a field of the country's financial system that unites companies that use the latest developments to provide better services in the financial market, and in a narrower sense, it is companies that belong to the field of financial services for users of payment systems [4].

The implementation of digital technologies on the financial market of Ukraine is carried out in stages, according to the Strategy for the development of Fintech in Ukraine until 2025. This document describes the principles and elements of a stable Fintech ecosystem, details the

indicators of its development with the aim of introducing a cashless economy and building an innovative financial market platform with large-scale financial inclusion (of citizens and businesses), with convenient and safe-to-use services and products that have affordable price and distribution channels [3]. The main digital technologies in the financial market of Ukraine are: Internet of Things, robotics and cyber systems, big data array, paperless technologies, artificial intelligence, additive technologies (3D printing), unmanned and mobile technologies, quantum, biometric technologies, identification technologies and Blockchain [6].

In 2022, the Law "On Payment Services" in the financial market entered into force in Ukraine, which harmonizes the normative provisions of the state financial regulator with the legislation of the European Union, namely with the Second Payment Directive (PSD 2), and as a result – the introduction of Open Banking among the main financial and related services market participants to develop mechanisms, standards, risk minimization criteria regarding the introduction of new tools, provision of information about new services and products among end consumers [3].

The development of digital technologies in the financial market of Ukraine contributes to the emergence of certain potential risks that affect the efficiency of the country's financial system. Such risks include: market risk, which involves negative consequences from a significant change in the market situation; cyber risk arising from the specifics of the financial technology environment; technological risk, which involves a violation of the uninterrupted provision of services as a result of failures or errors in the operation of the service; legal risks related to insufficient protection of consumer rights [9]. The above-mentioned risks may be aggravated by the rapid growth of new innovative Fintech ecosystems and forms of their interconnection, which are not covered by the financial regulator. The most significant impact on the effective functioning of Fintech ecosystems in the conditions of digitalization of the financial market is the risk of cyber attacks, which has a 70% impact on the activities of financial companies in the global financial system [5].

Despite the existing risks of financial technologies, the potential for their use is much higher; therefore the National Bank of Ukraine should

improve the institutional structure of innovative Fintech ecosystems, monitoring the most advanced global financial technologies, adapt to international regulatory rules and supervisory practices and modernize payment systems legislation.

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