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THE TECHNOLOGICAL INNOVATIONS OF FINTECH COMPANIES IN ENSURING THE STABILITY OF THE FINANCIAL SYSTEM IN PANDEMIC TIMES

Abstract. The COVID-2019 pandemic has negatively affected all aspects of the socio-economic development of countries. Both Latvia and Ukraine were not spared from these trends. An important issue for the development of countries at the current stage, especially for Ukraine in the conditions of war, is the development of new technologies that give the possibility to manage the accounts online. The main research purpose is to explore the ability of FinTech companies to provide financial stability during a pandemic. This investigation becomes essential in the view of the other global challenges, such as war. Examination of technological innovation of FinTech development in the paper is carried out in the following logical sequence: studying the development of technological innovations of FinTech companies in Latvia and Ukraine; identifying the positive experience of Lithuania and Estonia in the development of the FinTech sector for Latvia and Ukraine; analyzing the capabilities of FinTech and EcoTech companies. Methodological tools of the research methods were literature analysis (a review of research in FinTech companies) and taxonomic methods used to determine the development and ability of FinTech to ensure financial stability. The research covers 1986-2020. The research object is the FinTech Index and Index of Economic Freedom of Ukraine and Latvia, Estonia, and Lithuania because Ukraine and Latvia lag behind Estonia and Lithuania in terms of their Global FinTech index and, in perspective, could use their positive experience of FinTech development. For this reason, the authors proposed tightening countries' positions according to the criteria of the legislative base, government intervention in the economy, the efficiency of regulation, and openness of the economy. The directions of the development of technological innovation of EcoTech were proposed. The research empirically confirms and theoretically proves the development of FinTech and EcoTech's innovative conception and tools. The research results and recommendations could be useful for transnational corporations to develop the FinTech system.

Keywords: FinTech, Latvia, Ukraine, EcoTech, government support, financial stability.

Introduction. Beginning in the 1970s, when two classes of financial documents became available to investors virtually due to deregulation, they played a massive role in the massive growth of financial transactions and the financial sector's profitability. Firstly, these were derivatives – contracts for the future supply of a financial instrument or commodity, and secondly, securitizations – procedures that increased the yield of instruments that turned these instruments into tradable securities, which were then embedded in derivative contracts. At the beginning of the 21st century, banks began to «securitize» previous loans to finance new ones. It was initially concentrated on residential mortgages before moving on to other forms of bank liabilities. All this has led to numerous high-risk derivatives in the economy. At the same time, as soon as the financiers realized their obligations were worth little, they issued even more debt for their refinancing. At the same time, the costs of the speculative bubble are mainly borne by society because governments carried out the process of bailing out banks during the 2008 crisis at the expense of the state

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budget. In this case, banks shift their risks to society, knowing full well that their collapse would be a great burden on the economy. Based on this logic, they believe that the state is obliged to take care of their salvation. Thanks to unprecedented securitization, the volume of transactions with securities soared to heaven, spurring the IT revolution and setting off a tumultuous process for forming an entire industry – FinTech. Commercial banks, with the help of FinTech, could now use their huge balance sheets based on customer deposits for speculation, completely unconcerned with the growing risks, and develop financial instruments of ever more mind-boggling complexity, especially since the most qualified personnel are concentrated in the FinTech industry, capable of actually implementing almost any banking requests using digital currencies and blockchain technologies, and without special banking supervision and regulation.

The COVID-2019 pandemic has a lot of problematic issues, such as stagnation of production, unemployment, and increasing poverty (Stukalo et al., 2022). Latvia and Ukraine also suffer a lot from the pandemic. Ukraine is currently under attack by the Russian Federation and at war. Many areas of activity (education, trade, administrative services, finance, etc.) have moved to an online format (Zinovieva et al., 2021; Stukalo and Simakhova, 2020). Besides, both countries have long been looking for their main driver in the economy. There may be an opportunity to find a position in the European economy in the development of FinTech companies that allow them to manage their accounts and manage their finances globally. That is especially important in a pandemic and during war conflicts (such as the war in Ukraine in 2022). In the FinTech movement, Latvia and Ukraine are far behind Latvia's neighbors Estonia and Lithuania. This article aims to study FinTech companies' development in the context of a pandemic. This investigation is essential in the view of other global challenges, such as war.

Literature Review. In the modern scientific literature, the question of the development of FinTech is very relevant. Haddad and Hornuf (2019), Nicoletti (2017), and Lu et al. (2021) have studied this issue. The authors discussed the future and emergence of the global FinTech market. Sipilova et al. (2020) identified the place of financial technologies within the institutional banking environment and the consideration of approaches to their assessment.

The development of FinTech companies is one of the trends in the global economy. Fintech is a cutting-edge industry growing rapidly, especially in the face of a pandemic. Key statistics show that digital banking services are taking over: 46% of people exclusively use digital channels for their financial needs, 77% of traditional financial institutions plan to increase their focus on innovations to boost customer retention. The total transaction value of digital payments grew from 4.1 trillion USD in 2019 to 5.2 trillion USD in 2020. More than a third of FinTech industry deals have been made outside the US, the UK, and China (Julija, 2022). During the pandemic, there was a colossal growth in FinTech that outstripped even pharmaceuticals.

We agree with the scheme proposed by the authors regarding the place of FinTech in the institutional banking environment (Figure 1). However, concerning the interaction between banks and FinTech (Interaction between banks and FinTech), some problems could soon have a huge social impact on the development of the entire world. Economies are not reflected in this scheme.

The US liberal economist Michael Munger (2018) argued that capitalism is moving from production to intermediation and redistribution of already created resources. Modern businesses are not concerned with increasing the productivity of machine tools in the factory and selling goods but with reducing transaction costs (i.e., simplifying the exchange process, whether buying or renting goods or services). The profit motive drives capital away from the real sector to the information sector above it, facilitated in principle by the rapidly developing FinTech system, which makes banks' service systems more accessible. Munger notes the problem: many «real» projects in which platforms were stubbornly invested are not generating returns. The author sees the reason in the stupidity of management. Thus, they make billions by «selling the reduction of transaction costs», but cannot feel comfortable until they start trading with something more understandable.

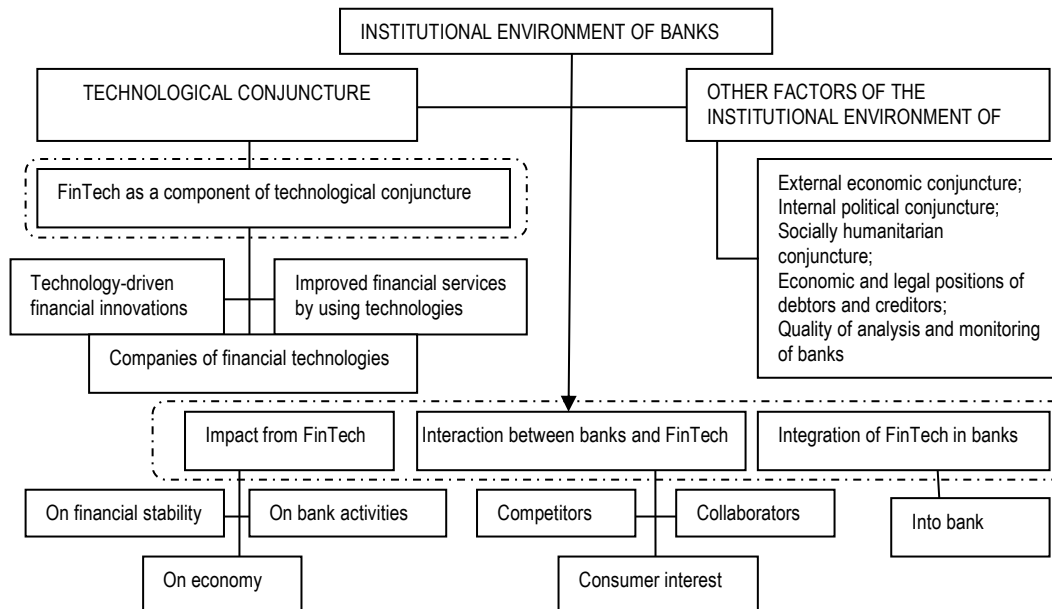


Figure 1. The role of FinTech in the institutional banking environment

Sources: developed by the authors based on (Mensikov et al., 2021).

Nick Srnicek (2017) argued that the issue is more complicated. Platforms tend to be unprofitable, their ad revenue unreliable. However, IT corporations enjoy the backing of banks hoping to refinance themselves in a monopolistic perspective. They are also constantly investing in automation and linking other sectors (including traditional industry). Significantly, the story of Uber's long-term dumping ultimately displaced or subjugated small competitors and forced hundreds of thousands of drivers to abandon stable employment and move into informal relationships directly with the platform.

Under these conditions, Michael Munger mentioned stratification as a clear negative that platforms create. The market allows fewer and fewer people to earn an income. The «middle class» disappears, and the dichotomy of the labor market deepens. Workers are increasingly divided into a narrow camp of the modern high-paid and a broad layer of the marginalized, who take worse and worse, more primitive and unstable jobs, who work more and more and get less and less for it (Table 1). Labor's share of total income has dropped significantly, and most of the money goes to the capital owners (not even managers, but shareholders).

Table 1. Human Capital Index (HCI) in Ukraine and Latvia in 2010, 2018, and 2020

Country	HCI 2010	HCI 2018	HCI 2020
Latvia	0.68	0.74	0.71
Ukraine	0.63	0.64	0.63

Sources: developed by the authors based on (World Bank Group, 2020).

According to Table 1, Human Capital Index in Latvia is higher than in Ukraine. It grew from 2010 to 2020. In Ukraine, the HCI was 0.63 in 2020.

Another specialist Daniel Susskind noted that, unlike the industrial era, today's progressive sectors (IT, finance, elite services) require much fewer people and a much higher level of qualifications (Susskind, 2020). As a result, the transition of people thrown out onto the street by progress is as difficult as possible. Daniel Susskind compared the largest corporations of different eras. Thus, each new «generation» increases the concentration of capital and profits but noticeably reduces the number of employees.

Methodology and research methods. The following research methods were used in the article:

- general scientific research methods (an analysis based on the study of individual global indices and the position of countries in the rankings. Synthesis combining the results obtained with the development of specific proposals, including those related to EcoTech);
- literature analysis (a review of research in the field of FinTech companies);
- a systematic approach (a division of statistics on FinTech into aggregates selected by criteria, characterized by a certain commonality and distinctive features);
- Taxonomic methods are used to determine the development and ability of FinTech to ensure financial stability during pandemics and war.

A positive methodological experience of the authors was using the regression method as a statistical analytical method. It makes it possible to calculate an increasing linear trend in the world's increase in derivatives from 1986 to 2019. Using regression analysis, one can predict a specific increase in the number of derivatives. The study's hypothesis is the assumption of a relationship between derivatives and FinTech technological innovation, as well as the impact of economic freedom on the development of FinTech. The time of investigation is the 1986-2020 period. The article analyzes the FinTech Index and Index of Economic Freedom of Ukraine and Latvia to evaluate the ability of FinTech companies to ensure financial stability. The information basis of the research was the scientific publications on this issue, the UNCTAD and OECD reports, World Bank data, and the databases of the National Bank of Ukraine.

Results. Today, global capital is not interested in qualified specialists leaving, for example, from Ukraine or Latvia, because the labor cost here is much lower than in the West. A programmer from Eastern Europe is valuable precisely for its cheapness, and the way out of this «second-rate» situation is extremely difficult (and usually includes restricting the market, especially external, state support, etc.). Moreover, Michael Munger drops a cynical proposal in the spirit of the investor Ruchir Sharma (2017). For capital, even in the conditions of «lower transaction costs», you must first bring down living standards, wages, and working conditions and abolish trade unions to come to your country.

Nick Srnichek (2017) argued that the same is true for the high-tech phase: while Google, Apple, and other corporations are trying to win users back from each other, this war will not end with a single victory. That is why platforms today have moved to a different strategy closing users within their «ecosystem». Thus, a person using a Google search must use Gmail, food delivery service, payment system, social network, etc. There is also the active purchase of tangible assets (servers, warehouses, a fleet of cars, etc.). Services like Uber become a part of conglomerates owned by Amazon, Apple, or Google. If they are not bought outright (as with Instagram or many messaging services, for example), they become dependent on others' data stores, electronic maps, etc.

It is important to note that control over commerce, data, servers, etc., would allow digital corporations to take over the industry gradually. Platform solutions for manufacturing allow companies to save labor and increase labor productivity. The need to sell a product forces factories to enter into relationships with marketplaces and use platforms that connect suppliers and buyers. Srnichek (2017) claimed that much of the industry in Germany, Japan, and the United States is already tied to IT platforms. The essence of the platform is that when it becomes popular (and therefore has no alternative), its owner can impose its own rules of the game on everyone. It is a monopoly. Many authors pointed this out. Shoshanna Zuboff (2019) drew attention to such a problem that, for example, Google and Facebook were the only ones who knew what they were doing. The surveillance network grew in secret, unnoticed by the public and lawmakers.

Hence, there is a need to preserve and disseminate knowledge about the threat to humanity posed by an uncontrolled monopoly in an area as critical to humanity as the field of communications. There is an urgent need to introduce legal regulation and government control over the activities of companies operating in the information field.

Nick Srnichek (2017) argued that the IT companies had received fabulous resources from banks just for the prospects of monopoly (or at least oligopoly). The main development here is due to the FinTech system, where huge resources of banks are invested, the system of distribution of services is improved, and competition develops mainly due to fast and efficient customer service and easy access to banking services.

The growth of FinTech operations is associated primarily with the development of operations with derivatives on exchanges and other platforms. As world statistics on turnover of OTC foreign exchange instruments show, transactions with derivatives have constantly been increasing from 1986 to 2019 (Figure 2). The trend line modeled using regression analysis confirms the expansion of speculative capital turnover at the global level. Regression equation:

$$Y = 714,9X - 1235, \quad (1)$$

where y – turnover of OTC foreign exchange instruments.

The coefficient of determination is 92.7%. It indicates the reliability of this regression equation.

An unmanaged and uncontrolled securitization process could lead to another global financial crisis, especially since FinTech assets are often in digital currencies not controlled by governments, and the level of risk of these assets is difficult to calculate. However, banks could transfer client money to FinTech companies for management.

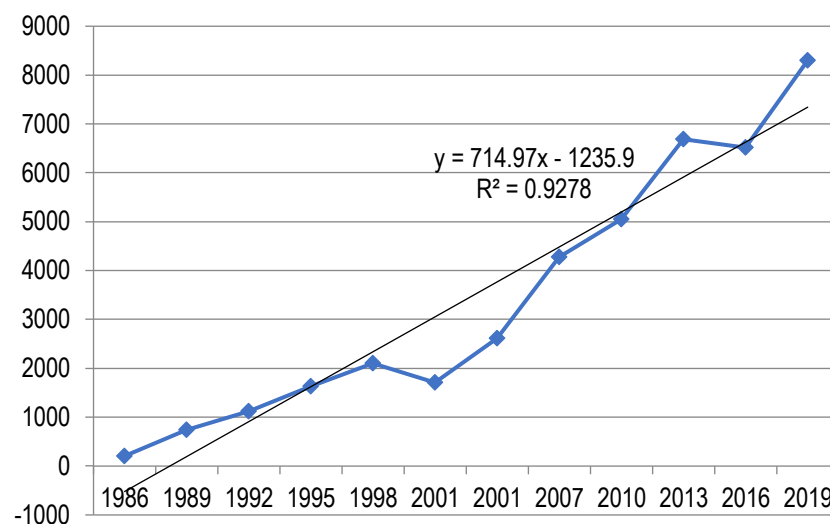


Figure 2. The turnover trend line of OTC foreign exchange instruments in 1986-2019

Sources: developed by the authors based on (Stats, 2022).

According to the Global Fintech Index 2020, Lithuania ranks second in Europe (after the UK) and fourth in the world. Estonia ranks 10th, Ukraine ranks 43rd, and Latvia – 49th (Table 2).

Table 2. Global Fintech Index and Index of Economic Freedom in Ukraine, Latvia, Estonia, and Lithuania in 2020

Country	Global Fintech Index Rank	Index of Economic Freedom Rank
Ukraine	43 (Kyiv – 77)	127 (mostly economic unfree)
Latvia	49 (Riga – 96)	30 (mostly economic free)
Estonia	10 (Tallinn – 45)	8 (mostly economic free)
Lithuania	4 (Vilnius – 29)	15 (mostly economic free)

Sources: developed by the authors based on (Findexable, 2019; Heritage, 2021).

Out of 238 cities-centers of financial activity where startups are actively deployed according to the FinTech rating, Vilnius takes 29th place, Tallinn – 45th, Kyiv - 77th, and Riga – only 96th (Findexable, 2019).

An urgent issue is to study the reasons for such a difference in the development of FinTech companies in these countries and consider the positive experience of Lithuania and Estonia for Ukraine and Latvia. The main factors influencing the development of FinTech are the availability of highly qualified personnel, access to foreign investment, government support, and the ability to create and develop startups.

According to Table 2, the Index of Economic Freedom of Latvia, Estonia, and Lithuania is in the same group – the most economically free. Thus, there are opportunities in Latvia to develop FinTech at the level of Lithuania and Estonia. The criteria for this are:

- the legal framework;
- government intervention in the economy;
- the effectiveness of regulation;
- the openness of the economy.

Table 2 shows that Ukraine is low on the Index of Economic Freedom. Ukraine is primarily economic unfree and lags far behind the positions of Latvia. To develop FinTech in Ukraine, it is necessary to create an appropriate regulatory and economic framework according to the abovementioned criteria.

According to the UNCTAD World Investment Report (2020), the inflow of foreign direct investment in Estonia in 2019 was twice as high as in 2018. At the same time, in Latvia, it was 20% less. In Lithuania, FinTech companies specialize in payments, lending, and banking, while in Estonia – digital payments, personal finance, and alternative lending (Findexable, 2019).

Today FinTech is Lithuania's business card. The state is interested in having as many FinTech companies as possible. This policy has led to the fact that, for example, the recently popular Revolute payment system from the UK throughout Europe is now operating under a Lithuanian banking license. The same is for TransferGo (an online transfer service for labor migrants founded by Lithuanians in the UK) and GooglePayment. Thus, Lithuania is currently the number one country in the European Union regarding the number of issued banking licenses. Before Brexit, this was the UK.

One of the important reasons for FinTech development in Estonia and Lithuania is the support of the state and the creation of conditions for startup development.

In Ukraine, the financial technology market is in its infancy. In the field of financial technologies in Ukraine, there are more than 100 companies, most of which work in payment/money transfer (38 companies), technology and infrastructure (36 companies), and mobile wallets (22 companies). According to the information provided in the Ukrainian FinTech Catalog 2019, about 70% of FinTech companies operate without attracting money from outside investors, of which 61% rely solely on their funds, another 9% – attract money from friends and relatives. 30% use foreign investment, mostly private investors and angel investments (Shevchenko and Rudych, 2020).

About 43% of Ukrainian FinTech projects operate on the international market, and 82% of companies are located in Kyiv. The finTech industry employs about 4 thousand people. It is approximately 2.4% of all employees in the Ukrainian IT market.

Problems that hinder the development of FinTech in Ukraine (Shevchenko and Rudych, 2020) are as follows:

- the unstable economic situation in the country, the volatility of the national currency;
- the imperfection of state regulation of financial technologies;
- the unfavorable investment climate in the country (lack of interest of foreign and Ukrainian investors in the process of investing in domestic startups);
- the insufficient and uneven development of the necessary infrastructure (telecommunications and the Internet), quality and cost of Internet and mobile telephone services;
- lack of specialists in new financial and information technologies;
- low level of patent activity, almost complete absence of breakthrough IT technologies, including in FinTech;
- underdevelopment of the venture investment system;
- insufficiently high technological and financial literacy of the population, falling real disposable incomes, and distrust of innovations.

The National Bank of Ukraine (NBU, 2021) has approved the Strategy for the Development of FinTech until 2025. It is a step-by-step plan to create a full-fledged FinTech ecosystem in Ukraine with innovative financial and affordable digital services. The key effective elements of the strategy would be as follows: development and implementation of the concept of a full-fledged regulatory «sandbox» for rapid testing of innovative projects; raising the level of financial awareness and involvement (inclusion) of the population and business; launching an academic base with a focus on outdoor banking.

The implementation of the strategy would also largely depend on the implementation of related digital projects on which the National Bank of Ukraine works. In particular, it is a question of introducing remote identification and verification, implementing the European directive PSD2, granting an opportunity to realize instant payments from account to account in EPS in the format 24/7; strengthening the regulatory perimeter in the field of cyber security and all other innovative projects of the central bank (NBU, 2021).

The most perspective niches for the development of FinTech companies in Ukraine are as follows:

- payment services;
- cyber security;
- big data analytics;
- capital market management;
- artificial intelligence;
- biometrics;
- solutions for the real estate market.

In general, cooperation or competition between Ukrainian and Latvian banks and FinTech companies would depend on three factors:

1. Changes in regulatory procedures by the state. The transition of regulatory functions to risk management.
2. Active development by ATI (Advanced Technologies for Industry) banks of platforms capable of attracting FinTech companies to cooperation.
3. Training and stimulation of personnel capable of working in FinTech, as well as a wide dialogue with this community.

Technological innovations make transactions easier and easier, but security issues are becoming increasingly clear. Many applications allow users to make transactions with one or two clicks. However, this simplicity makes transactions more insecure, and the issues of user authentication and protection

against fraud become much more complex. Especially the capabilities of FinTech had a positive impact during the pandemic when it was possible to carry out financial transactions without spatial movement and border crossing. It creates conditions for clients of banks and other firms to work remotely. This trend would only intensify further.

FinTech also has tremendous prospects in cooperation with social networks, such as Facebook, with enormous opportunities to carry out financial transactions on social networks.

Taking into account the strict restrictions on the bank accounts of Latvian and especially non-resident companies when working on foreign projects, it was possible to provide alternative support to Latvian businesses in the EcoTech sector to support the banking structures in lending to EcoTech projects. Moreover, the billions of assets lost by Latvian banks would never return to Latvia, as the country's image as a financial paradise is hopelessly lost. Such an initiative would also be important for the Ukrainian economy.

A series of governmental measures could stimulate such a direction as EcoTech, starting with tax incentives, the creation and support by the government of special clusters for such companies from all over the world, according to the experience of e-Estonia or, for example, a IT cluster at Kaunas airport. Attracting European funds for these projects, involving various state agencies under the Ministries of Economy of Latvia and Ukraine in promoting these ideas.

The interest in scaling up energy efficiency and green energy projects is obvious. After all, in this way, countries solve not only energy supply problems but also influence social and economic processes: they create jobs, attract new technologies, increase the population's welfare, and increase budget revenues, and so on (Stukalo and Simakhova, 2020).

Environmental projects, which have many undeniable benefits for the well-being of society, require considerable long-term investment. Such financing is difficult to obtain from the Ukrainian banking system and the local capital market. For Ukraine, due to the lack of finance, it is promising to issue green bonds, which are monitored by international organizations (CICERO, 2021).

The global market for green bonds is growing exponentially. In 2007, for the first time, the world issued «green» bonds totaling 900 million USD, and in 2019 – a record amount of more than 250 billion USD (Gura, 2021).

The governments of the G20, the European Commission, the World Bank and the International Finance Corporation, the European Investment Bank, the European Bank for Reconstruction and Development, and the Organization for Economic Co-operation and Development must pay special attention to the formation of international and national markets for green bonds.

The ranking of countries in the world for issuing «green» bonds is headed by the United States, China, and France. The share of their bond issue in the total world issue in 2018 was 47%. The top world issuers of «green» bonds include many European countries: Germany, the Netherlands, Belgium, Sweden, Spain, Great Britain, Ireland, Norway, and Italy (Gura, 2021).

Green bonds are an important financial tool for the development of EcoTech in Ukraine and Latvia. EcoTech could deal with the following areas:

- providing environmental security to businesses with IT software;
- technologies that replace the use of plastics and other chemical compounds that would be degraded in the long term;
- legal support programs for the environment;
- the same «robot assistants» in ecology and the creation of various algorithms.

It is possible to outline many directions in EcoTech, but the main thing is that in many respects, these positions overlap with the field of FinTech.

Also, the growth of external public debt of the US and the EU leads to high inflation of national currencies. In the EU and the US, it is already over 6.5% (Table 3).

Table 3. Inflation rate and external debt in 2022

Country	Inflation rate, %	External debt to GDP ratio, %
Ukraine	13.7	62.03
Latvia	11.5	36.66
Estonia	15.2	7.61
Lithuania	15.7	33.79
USA	8.5	106.70
Germany	7.3	56.93
France	4.5	99.20
Italy	6.5	133.43
Spain	9.8	95.96

Sources: developed by the authors based on (Trading Economics, 2022; World Population Review, 2022).

Rising external debt, especially in the US, the effects of the pandemic, and soaring energy prices are not conducive to reducing public debt. The leading world states do not hide their intentions to switch to state digital currencies, free from inflationary pressure, to get rid of the debt burden. The FinTech system is ready to work on the blockchain and can take key positions in the global financial system.

Conclusions. The FinTech sector is expanding rapidly during the pandemic. It is a promising technological innovation and branch of the world economy.

In her research, Marianna Mazzucato (2019) concludes that the financial sector should be considered a rentier (value taker). Since the FinTech system is rather an intermediary between banks and their clients, working in the interests of banks, using their assets and client money to minimize risks in transactions with derivatives and securitization. It could lead to financial crises similar to 2008. Thus, it is necessary to consider the procedures and methods of assessing the assets of banks placed in FinTech companies to legitimize these processes through international banking regulations Basel IV (BIS, 2022). Following Mazzucato (2019), the financial sector is rather unproductive. However, the rapid growth of the FinTech industry contributes to the development of the IT sector, increasing labor productivity in the field of digital services, and primarily in the conditions of COVID-19.

The development of FinTech companies is important for Ukraine and Latvia. Today, both countries lag behind Estonia and Lithuania in terms of their Global FinTech index, which has created favorable conditions for the development of FinTech. Latvia has a high Index of Economic Freedom. It is among the countries with greater economic freedom than Lithuania and Estonia. Ukraine lags far behind in terms of the Index of Economic Freedom. For the development of FinTech for the country, it is necessary to tighten its position according to the criteria: legislative base, government intervention in the economy, the efficiency of regulation, and openness of the economy.

The theoretical contribution of the article is the development of FinTech and EcoTech conception and their tools. For example, green bonds are an important financial tool for the development of EcoTech in Ukraine and Latvia. FinTech is the basis for introducing regional digital currencies in the future.

The research hypothesis was confirmed: the growth of innovative FinTech technology is associated with the growth of derivatives transactions, and countries with a high index of economic freedom have a higher level of FinTech development.

The article's practical value is the authors' recommendations for FinTech system development by transnational corporations. Thus, a solution is to eliminate the monopoly of IT companies by putting pressure on corporations not only at the legislative level but also in developing healthy competition at the international level, as digital transnational corporations easily bypass all borders and form or support the FinTech system in countries with least pressure from the state, easier tax systems, and cheaper resources. Therefore, the 15 procedures developed by the OECD organization to control the transaction

costs of international corporations BEPS have been agreed upon by 139 countries and jurisdictions and must be implemented. They must be actively extended to digital platforms in particular, considering their specificities and capabilities (OECD, 2021).

EcoTech development is promising for Latvia and Ukraine. The issue of green bonds is important in this matter. EcoTech would allow these countries to occupy their niche in the European economy, develop an innovative economy, and support the environment.

The limitations of the study are related to the analysis of four countries. In the future, for further research, all European countries will be analyzed to highlight the potential for the development of FinTech in this region in the post-pandemic period.

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Технологічні інновації FinTech компаній для забезпечення стабільності фінансової системи у період пандемії

Пандемія COVID-2019 негативно вплинула на всі аспекти соціально-економічного розвитку країн. Латвія та Україна не залишилися осторонь цих тенденцій. Важливим питанням для розвитку країн на сучасному етапі, особливо для України в умовах війни, є розвиток нових технологій, які дають можливість керувати рахунками в режимі онлайн. Основною метою даного дослідження є вивчити спроможність FinTech компаній забезпечувати фінансову стабільність під час пандемії. Проведене дослідження є важливим з огляду на низку глобальних викликів, зокрема, війни. У рамках даної статті проведено дослідження питання технологічних інновацій розвитку FinTech в наступній логічній послідовності: аналіз розвитку технологічних інновацій FinTech компаній Латвії та України; визначення позитивного досвіду Литви та Естонії у розвитку сектору FinTech, що може бути перенятий Латвією та Україною; аналіз можливостей FinTech та EcoTech компаній в умовах невизначеності (пандемія, війна тощо). Методичним інструментарієм проведеного дослідження стали наступні методи: аналіз літератури (огляд досліджень у сфері FinTech компаній) та таксономічні методи, що використовувалися для визначення розвитку та здатності FinTech забезпечувати фінансову стабільність. Періодом дослідження обрано 1986-2020 роки. Об'єктом дослідження є Індекс FinTech та Індекс економічної свободи України та Латвії, Естонії та Литви. Дані країни обрано з огляду на те, що Україна та Латвія мають нижчі позиції в глобальному індексі FinTech порівняно до Естонії та Литви. Таким чином, в перспективі вони можуть використовувати їх позитивний досвід розвитку FinTech. За результатами проведеного дослідження, авторами запропоновано посилити позиції країн за наступними критеріями: законодавча база, державне втручання в економіку, ефективність регулювання, відкритість економіки. Рекомендовано напрямки розвитку технологічних інновацій EcoTech. Дослідження емпірично підтверджує та теоретично доводить розвиток інноваційної концепції FinTech та EcoTech та їх інструментів. Результати та рекомендації дослідження мають практичну цінність для транснаціональних корпорацій країн щодо розвитку системи FinTech.

Ключові слова: EcoTech, FinTech, державна підтримка, Латвія, Україна, фінансова стабільність.