

MODERN FINANCIAL INNOVATIONS AND THEIR ROLE IN THE FORMATION OF THE INTERNATIONAL MONETARY AND FINANCIAL SPACE

^aSERGIY VOYTOV, ^bLIUBOV LYSIAK, ^cSVITLANA KACHULA, ^dOLEKSANDR HARMASH, ^eBOHDAN MYKHALCHUK

^{a,b,d}University of Customs and Finance, 2/4, Volodymyr Vernadsky Str., 49000, Dnipro, Ukraine

^cDnipro State Agrarian and Economic University, 25, Serhiia Yefremova Str., 49000, Dnipro, Ukraine

^eLesya Ukrainka Volyn National University, 13, Voli Ave., 43025, Lutsk, Ukraine

email: ^as.g.voitov@gmail.com, ^bL_Lubov@ua.fm,

^cs.kachula@ukr.net, ^dcorsar77@ua.fm, ^ebohdan126@gmail.com

Abstract: The article attempts to systematize the patterns of modern financial innovations in the form of fintech and outline their impact on transformation in the international financial market and monetary space. The authors claim about paradigm shift in global financial landscape and present conceptual evaluation of its implications for both players and regulators. The results of the study would help deepen and expand understanding of the current dynamics and development prospects of financial markets and banking sector.

Keywords: financial innovations; fintech; monetary space; financial market; paradigm shift.

1 Introduction

The dominating aspect of the modern financial system is a rapid rate of innovation, both in terms of quantity and value. Financial innovations are not a new phenomena; they have been accompanied technology improvements since the beginning [27]. It is widely acknowledged that financial and technological advancements are inextricably linked and progress concurrently throughout time. On the one hand, financial innovations offer a way to support innovative technological companies when traditional funding sources are unavailable due to high investment risk. On the other hand, technological and economic progress, which increases the complexity of business processes and introduces new types of risk, forces the financial system and financial markets to adapt and modernize in response to the new requirements of business entities and the challenges of today [4]. This leads to the conclusion that without financial advances, technical and economic growth would stall, and nations' wealth would decrease. Simultaneously, the use of financial advances would be constrained in the absence of demand generated by technological advancement [18].

Industry 4.0 and rapid digital transformation determined arising of not only purely technically, but also conceptually new financial technologies and tools. A paradigm shift in financial markets is observed [6].

The global systemic crisis marked a paradigm shift in world development - a renewal of not only the mode of production (the transition from the industrial era to the post-industrial era), but also the entire social structure (the transition from the capitalist system to the post-capitalist one). As is known, this civilizational shift is caused by the combined action of three factors - globalization, the fifth scientific and technological revolution, and the third revolution in social communications (the spread of Internet technologies - after the advent of language and then writing). Massive online contacts have reduced social distances, which has led to a sharp increase in the dynamism of the environment, the level of interdependence of players and the degree of unpredictability of events - a situation often perceived as the "tyranny of the moment" [3].

Adapting to new environmental parameters, the world began to rapidly move towards the information society, the main feature of which, according to Manuel Castells, is not so much the dominance of information but rather the network logic of its use. Castells emphasized the organic connection between the new technological paradigm and the formation of a network structure, when network information flows, network structures and

network interactions form the basis for the organization of the economy and society. In accordance with his vision, the modern economy spontaneously transforms into a network system and thereby becomes a "continuously moving space of flows", acquiring the ability of continuous updates [13].

Institutionally, the increasing complexity of the structure of economic systems is associated with the emergence of a new way of coordinating connections and harmonizing interests. All these processes respectively influenced the international monetary and financial space.

Prior to the onset of the global financial crisis (GFC) in 2007, the methods in which financial markets, institutions, and players functioned were heavily influenced by certain paradigms about how financial markets and institutions should operate and how investors should behave. Markets were thought to be informationally efficient, and financial innovation was viewed as an effective risk management and economic growth instrument. Similarly, self-regulation of markets by the financial industry was viewed as a successful regulatory instrument. Prior to the crisis, policymakers' pro-self-regulatory stance was evident in their opposition to the Commodity Futures Trading Commission's (CFTC) efforts to strengthen public regulation of over-the-counter derivatives in the late 1990s [16]. Politics has gradually become secondary to markets over the previous few decades. Since Francis Fukuyama's post-1989 'end of history' idea, which claimed that Western-style liberal democracy combined with capitalism had triumphed over other socioeconomic paradigms, the neoliberal version of free market economy with a limited role for the state has dominated. Markets became less political in the second half of the 2000s, and regulatory institutions and processes were further eased. Nobody questioned the involvement of entrenched interests in such organizations and systems, and financial rating agencies grew dominant in forecasting doom and gloom for whole countries and economic activity sectors. International organizations such as the Organization for Economic Cooperation and Development (OECD), the World Bank, and the International Monetary Fund (IMF) did little to combat this subtle erosion of power in favor of more private and even less accountable private actors such as banks, multinationals, and rating agencies. The actions of the IMF and the World Bank prior to the GFC sparked widespread anger among global civil society [28].

As modern theorists of business management believe, the global crisis will gradually destroy the traditional model of the global financial market, and the classic TNCs and TNBs, which today are leading the world economy to stagnation, will be replaced by dynamic network organizations, both production and credit - they will become the new engine of economic growth [23]. It is significant, for example, that the energy market, which, according to expectations, is capable of acting as a driver of the post-crisis recovery of the global economy, is today changing not only the resource structure (the era of crude oil and natural gas is becoming a thing of the past), but also the organizational model: the role of the main players is gradually moving from large corporations to millions of individual investors.

Participants in innovation ecosystems do not just cooperate, but enter into collaborative relationships. They interactively exchange explicit and tacit knowledge, forming a shared vision regarding measures to adapt to a hypervariable environment. Thanks to this vision, network participants can make more effective decisions compared to individual ones (collective self-government mechanism), as well as effectively join forces to jointly create new benefits (collective innovation mechanism). Moreover, this vision is continuously adjusted in the course of mutual agreements, forming the basis for generating innovations in a continuous mode. The resulting synergy of interactions gives the network community the ability to develop itself, which is clearly seen in the example of Fintech.

Models of innovative financial ecosystems, i.e., patterns of network cooperation, are extremely diverse. In this context, understanding modern financial innovations and their role in the transformation of the international monetary and financial space seems to be an extremely urgent scientific task.

2 Materials and Methods

The study used general logical methods (analysis, synthesis, induction, deduction and analogy), theoretical methods (hypothetico-deductive method, generalization, factor, system and structural-functional analysis), empirical methods, such as the method of comparative statistical and dynamic analysis.

In the process of carrying out the research, systemic, expert-analytical, comparative, institutional, evolutionary, synergetic methodological approaches, a modeling method, a combination of analysis and synthesis methods were also used to identify problems (trends, patterns, and contradictions) in assessing the impact of financial innovations on the international financial market and monetary landscape.

3 Results and Discussion

The financial services sector is at a crossroads in a disruptive period, marked by the dynamic interaction of digital currencies, alternative payment rails, and novel financial concepts. The trip began with the excitement around cryptocurrency, alternative payment systems such as Cash App, Venmo, and Afterpay, and the advent of digital banks, all of which sent shockwaves through the traditional banking and financial services industries. However, as the cryptocurrency market crashed and digital banks struggled to gain momentum, the traditional banking sector breathed a sigh of relief. A deeper examination, however, indicates that a new tsunami is on its way—one that could transform the fundamental underpinnings of financial services in the cognitive internet age [2].

The first wave of change arrives with the obvious momentum of digital currencies, which are ready to supplant traditional currency. As of the third quarter of 2023, 130 nations accounting for 98% of global GDP were using Central Bank Digital Currencies (CBDCs). Nineteen of the G20 nations are in advanced development, and eleven have already launched a digital currency, with China leading the way, reaching 260 million people across over 200 use cases ranging from retail to public transportation and stimulus payments [3].

We live in the age of digitization. This is a well-known truth, and technology has lately changed the financial business. The rise of digital banks, or neobanks as some refer to them, is altering the financial landscape. With the correct attitude, a digital bank may become more than just a transaction platform. It has the potential to develop into a financial ecosystem, providing everything from banking to investing goods at one location.

Digital banks are banks that do not have physical branches and instead provide financial services remotely via digital platforms such as mobile applications and web portals. Of course, it cuts major expenses, allowing these institutions to invest in technology that will strengthen their operations. Digital banks use cloud computing to provide scalability and stability, allowing businesses to handle high quantities of transactions easily. AI and machine learning can deliver personalized banking services, fraud detection, and predictive analytics. It is no surprise that the worldwide AI in fintech market was valued at \$8.23 billion in 2021 and is expected to reach \$61.30 billion in 2031 [5].

Despite investment swings, the future of fintech funding seems promising. CB Insights revealed that \$7.3 billion was invested in Q1 2024 over 904 deals, which is no minor achievement. It demonstrates the capital's sustained conviction in the potential of fintech and digital banking. U.S.-based fintech businesses led the drive in the first quarter of 2024, winning \$3.3 billion from 393 agreements, followed by the European fintech industry with

\$2.2 billion from 203 acquisitions. Asian fintechs placed third with \$1 billion from 210 transactions [19].

Figure 1 below shows tremendous growth of fintech adoption on the example of Gulf countries.

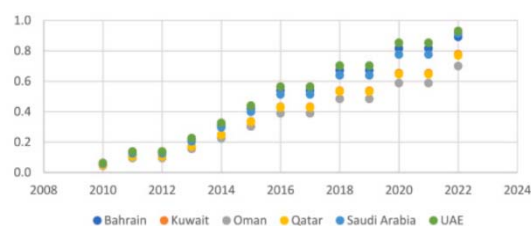


Figure 1. Fintech adoption in GCC [12]

Blockchain technology provides unprecedented transaction security and transparency. Digital banks use a variety of cybersecurity protections, including as end-to-end encryption, multifactor authentication, and KYC. These safeguards guarantee that consumers' financial information is secured, making digital banking as secure, if not safer, than traditional banking.

The landscape of both consumer and business banking will soon undergo a fundamental upheaval, questioning the usefulness of classic products such as checking accounts and credit cards. The developing paradigm stresses a highly individualized approach in which people and corporations are provided with their own digital vaults. These vaults, which serve as safe repositories, hold digital versions of a variety of assets. This encompasses not just financial instruments, but also actual assets such as homes, automobiles, expensive art pieces, antiques, and even novel instruments like non-fungible tokens (NFTs). The digital representations of actual assets provide unparalleled flexibility, allowing people and organizations to use these assets as collateral for loans or to trade more easily by utilizing digital tokens and smart contracts [2]. This dramatic move marks a break from traditional banking practices, ushering in a new era in which the lines between the physical and digital worlds are blurred, providing novel opportunities for managing and profiting on different assets in both personal and commercial contexts.

Embedded finance, defined as the seamless integration of financial services into non-financial digital environments, is transforming the way organizations and consumers engage with financial goods. These services were once limited to traditional financial institutions, but they are increasingly being woven into the very fabric of digital commerce, from shopping platforms to social networking applications, sometimes without consumers realizing they are engaging with sophisticated banking technology.

This disruptive approach to banking is driven by technology advancements that have broken industry boundaries, allowing firms to provide specialized financial services straight from their digital platforms. According to McKinsey, this integration not only improves the customer experience by providing services "at the point of need", but it also creates new revenue sources for businesses beyond the traditional financial environment [22].

The fast growth of embedded finance is altering the competitive environment, forcing traditional banks to reconsider their strategy and adapt to a market where technology and customer experience reign supreme. As these financial products grow more integrated into common apps and platforms, they offer the promise of improved convenience and accessibility while also posing major regulatory and operational problems.

Embedded finance is growing as a result of advances in essential technologies that allow for the seamless integration of financial services into non-financial digital platforms. APIs are a key technology driving this integration since they enable diverse

software systems to connect rapidly and effectively, allowing services like payments, loans, and insurance to be embedded into numerous consumer platforms. This enables users to obtain financial services directly through their chosen digital channels, eliminating the need to communicate individually with financial institutions.

The proliferation of smartphones has also had a significant impact on the development of embedded finance. The global rise in smartphone usage has increased access to mobile wallets and other digital payment methods, making financial services more accessible to a wider audience. This tendency is aided by the development of systems such as India's Unified Payments Interface, which streamlines transactions and has gained broad use.

Artificial intelligence (AI) has also played an important part in improving the capabilities of embedded finance by allowing for more tailored and efficient services. AI's ability to handle vast amounts of data in real time enables improved risk assessment and more personalized financial product offers. In the lending industry, for example, AI enables upgraded credit scoring algorithms that give more accurate evaluations of borrower risk, resulting in better loan choices and improved client experiences. The use of big data analytics in the banking industry is a watershed moment, opening the way for data-driven decision-making, improved risk management, and a better customer experience. As technologies such as artificial intelligence and machine learning evolve, the potential for big data in the financial sector will only increase, driving the industry into an exciting and progressive future.

These technology advancements not only improve the functioning and reach of financial services, but they also reshape customer expectations and the competitive environment of the financial business. As technology advances, embedded money is likely to play an increasingly important part in ordinary consumer activities.

The advent of embedded finance represents a paradigm change for traditional financial institutions, compelling them to reconsider their business models and client engagement initiatives. This transition is being driven by a growing consumer and company demand for more integrated and seamless financial experiences, which embedded finance provides. In response, traditional banks are increasingly collaborating with technology companies to provide integrated financial capabilities via Banking as a Service (BaaS). BaaS enables banks to share their regulatory and financial infrastructure with internet businesses, allowing them to provide financial services without becoming banks themselves. This partnership allows for the direct integration of banking services such as account management, payment processing, and credit facilities into third-party platforms. Such collaborations allow banks to not only benefit from fintechs' technological knowledge and creative ideas, but also to expand their service offerings to new consumer bases.

As embedded finance grows, it brings a new set of regulatory challenges and considerations that must be addressed in order to protect consumers and ensure the financial system's stability; regulatory bodies around the world must focus on adapting existing frameworks to accommodate the rapid growth of financial services provided by non-traditional financial institutions. In particular, Europe is undergoing regulatory changes, with the European Banking Authority (EBA) focussing on ensuring that embedded finance does not violate existing banking and financial services legislation. This involves adhering to strict KYC (Know Your Customer) and AML (Anti-Money Laundering) regulations, even when financial goods are sold via non-financial channels.

These regulatory initiatives are critical for preserving trust in the financial system, since embedded finance blurs the conventional lines between economic sectors. Authorities can assist encourage the expansion of embedded finance while preserving consumers

and the financial system's integrity by establishing strong regulatory control.

In the digital age, central banks, as guardians of monetary policy and financial stability, face a critical decision point. The growth of private cryptocurrencies has raised questions about the efficacy of traditional economic institutions, forcing central banks to look at the prospect of developing their own digital currency. CBDCs are a strategic response to this paradigm shift, allowing central banks to gain the benefits of digital technology while preserving monetary policy and regulatory oversight. CBDCs require a multifaceted strategy that considers technical infrastructure, monetary policy objectives, regulatory considerations, and user experience [17]. The essential design elements are: CBDCs must be built using secure and strong blockchain or distributed ledger technology to safeguard against cyber threats, fraud, and counterfeiting. The underlying infrastructure should be capable of handling huge transaction volumes with low latency, allowing for seamless interchange between payment systems. Balancing transaction openness with user privacy is crucial for preserving trust and adhering to data protection regulations. CBDCs should serve a diverse user base through user-friendly interfaces and interoperable access channels, including the unbanked and underbanked. Interoperability of CBDC systems with traditional payment networks is crucial for facilitating cross-border transactions and boosting global financial integration. As a result, in the fast growing field of digital banking, Central Bank Digital Currencies (CBDCs) have emerged as a game-changing innovation, poised to reshape the fundamental fabric of monetary transactions and financial institutions throughout the world [28]. As countries and financial institutions wrestle with the complexities of implementing CBDCs, it is critical to investigate the various difficulties and possibilities that these digital currencies bring. This essay attempts to shed light on the important concerns for CBDC implementation, with an emphasis on security, data privacy, and the underlying technology foundation. CBDCs represent a considerable shift from established financial models by establishing a digital form of central bank money that promises increased efficiency, inclusiveness, and innovation in payments and settlements [14].

Financial technologies increase the efficiency and accessibility of financial services, but, on the other hand, can create risks for financial stability. As the potential impact of fintech on the economy increases, the development and implementation of new models of financial intermediation – a “brave new world”, as Christine Lagarde, President of the European Central Bank, called it – creates new challenges for regulators [15].

Financial technologies increase the efficiency of the monetary policy transmission mechanism, as a study by Hasan and Flamini [8] showed on Chinese data. China is the world's largest fintech market, the authors explain their choice, and although the People's Bank of China does not officially target inflation, the mechanism for transmitting monetary policy signals to the economy in China is similar to what happens in developed economies that apply an inflation targeting regime.

The authors developed a model that analyzed how four macroeconomic variables - the dynamics of real GDP, inflation, bank lending, and housing prices - react to monetary policy decisions depending on the level of financial technology development. To determine this level, the researchers relied on the Digital Financial Inclusion Index in China, developed by Peking University together with Ant Group (a subsidiary of the tech giant Alibaba Group, which owns the Alipay payment system). The index takes into account the penetration of digital financial services (payments, investments, insurance, lending) across three administrative levels (provinces, prefectures, and counties). In their study, the authors looked at provincial-level data from 2011-2018. To compare the results, a model was used that did not take into account the fintech development factor.

The level of penetration of financial technologies increases the influence of monetary policy on economic and financial

indicators, according to research data. But this “fintech factor” is quite short-lived: differences between macroeconomic responses in regions with low and high fintech indexes smooth out after two quarters. Thus, stimulating monetary policy in regions with a low level of fintech development does not lead to real GDP growth, but in regions where financial technologies are more developed, it is accompanied by a noticeable, albeit short-term, increase in real GDP. The volume of bank lending in regions with a high level of fintech development is increasing approximately twice as fast as compared to regions where fintech is less developed; this effect persists for seven quarters, but is statistically significant only at the initial stage. The rise in house prices in response to expansionary monetary policy is also more pronounced in regions with more advanced financial technology compared to regions with low levels of fintech adoption.

The role played by the level of fintech development in the impact of monetary policy on inflation is ambiguous, the researchers note. When fintech adoption is high, expansionary monetary policy causes weaker price growth than when fintech adoption is low, but after one quarter the effect reverses: inflation rises more at high fintech adoption than at low fintech adoption. This may be because greater adoption of fintech gives companies access to additional sources of finance and allows them to increase production, the authors explain, and in the subsequent period inflation rises as companies are able to increase investment and consumption.

Overall, however, as Al Kasasbeh et al. (2023) [1] claim, the efficiency, speed of information processing, and relevance and customization of information provided by emerging FinTech solutions compelled traditional participants in the global financial system to aggressively update their operations in order to remain competitive. Financial innovations increase the profitability of the financial sector, but they also change the structure of the financial system, creating a potentially unstable and highly unpredictable environment [11]. The use of multiple financial innovations within the context of FinTech might create a potentially unstable environment characterized by a high level of unpredictability. FinTech endangers the sustainability of the whole global system since its implementation leaves old functional connections inert, whilst new institutions and interdependencies may be distorted and possibly disruptive, with multiple unknown consequences [10].

None of the ‘fiat’, real currencies grew at a comparable rate to cryptocurrency (see Figure 2 for the dynamics of relative values of key cryptocurrencies in USD from 2014 to 2021). The profitability of cryptocurrencies has skyrocketed as more investors are willing to take on the enormous risks in exchange for massively profitable rewards. Robert Shiller (2015) [21], a Nobel laureate in economics, feels Bitcoin is the best modern example of a financial bubble. Furthermore, because cryptocurrency marketplaces are more difficult to control than traditional financial markets, criminals regularly utilize them for unlawful objectives such as money laundering, tax evasion, financial fraud, theft, and terrorist financing. The Anti-Phishing Working Group (APWG) said that fraudsters stole around USD 1.2 billion in cryptocurrency in 2017. As a result, state regulatory authorities have begun investigating whether bitcoin firms breach any laws. The United States Securities and Exchange Commission (SEC) has started dozens of investigations into digital tokens due to fraud concerns.



Figure 2. Relative prices of major cryptocurrencies in USD, 2014-2021 [1]

However, as Hasan et al. (2024) [9] argue, the results show that FinTech adoption typically reduces the transmission of monetary policy to real GDP, consumer prices, bank loans, and housing prices, with the greatest substantial influence on bank loan growth. Reduced financial limitations, regulatory arbitrage, and more competition are all plausible processes driving the mitigated transmission.

Sadiq et al. [20] investigate the impact of blockchain and digital currency on loan supply and financial stability. It focuses on industry-specific analysis and choices given by cryptocurrencies, stablecoins, and digital currencies for credit supply and financial stability. The study reveals that the adoption of various digital currencies rapidly alters company. The authors demonstrate that most sectors do not require central banks and instead rely on current digital currency and blockchain networks to facilitate monetary transfers. They argue that both private and governmental types of physical money will collapse in the future. Instead, central banks should combine digital currency and blockchain with an online technology payment approach to improve domestic financial stability and payment systems.

Furthermore, sustainable finance is gaining pace on a global scale, whether through voluntary pledges from market players or legislation. Over the last several years, sustainable assets under management have grown at an astonishing rate. In specifically, in the EU’s policy framework, sustainable finance is defined as financing that supports economic growth while decreasing environmental constraints in order to assist achieve the European Green Deal’s climatic and environmental goals, while also taking into consideration social and governance issues. Sustainable finance also includes openness when it comes to risks associated with ESG issues that may have an influence on the financial system, as well as risk reduction through adequate financial and corporate governance [25].

The worldwide sustainable finance market is predicted to reach USD 519.88 billion in 2022, with a compound annual growth rate (CAGR) of 22.6% between 2023 and 2030. In 2022, the total asset under management (AUM) for sustainable finance was USD 37.80 trillion. The increased knowledge and concern about environmental and social challenges, such as climate change, resource depletion, and social injustice, is predicted to drive market expansion [24]. This growing awareness has fueled demand for sustainable finance solutions as people, corporations, and institutions strive to align their investments with their beliefs and contribute to a more sustainable future. Furthermore, regulatory frameworks and government efforts are key drivers of market growth.

Interestingly, according to UN statistics [26], sustainable financing increased despite difficult markets during COVID-19 (see Figure 3).

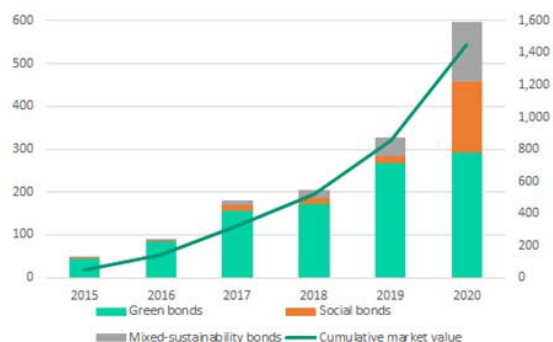


Figure 3. The \$1.5 trillion sustainable bond market continued growth in 2020 [26]

Thus, the effect made by modern financial innovations on the formation of new, post-capitalism international monetary and financial space is multi-directional, multi-vector and requires further thorough investigation, based on the analysis of both theoretical implications and practical transformation on the example of available plenty of cases, patterns of regional or industry specifics, etc.

Literature:

- Al Kasasbeh, O., Khasawneh, O., & Alzghoul, A. (2023). The real effects of Fintech on the global financial system. *International Journal of Professional Business Review*, 8(3), 1-12.
- Alamouti, S. (2024, January 19). Financial services in the cognitive internet era: A paradigm shift for banks or the dustbin of history? *Medium*. <https://medium.com/@siavash.alamouti/financial-services-in-the-cognitive-internet-era-a-paradigm-shift-for-banks-or-the-dustbin-of-25f43e1d27b7>
- Anthony, N. (2024). *Digital currency or digital control?: Decoding CBDC and the future of money*. Cato Institute.
- Blach, J. (2011). Financial innovations and their role in the modern financial system – identification and systematization of the problem. *Financial Internet Quarterly*, 7(3), 13-26.
- Dattana, V., Udipi, P., & Pandey, J. (2023). *Artificial intelligence in FINTECH: Concepts, use cases and case studies*. GRIN Verlag.
- Ernst, D., & Gleibner, W. (2022). Paradigm shift in finance: The transformation of the theory from perfect to imperfect capital markets using the example of company valuation. *Journal of Risk and Financial Management*, 15(9), 399.
- Foley, S., Karlsen, J. R., & Putniņš, T. J. (2019). Sex, drugs, and bitcoin: How much illegal activity is financed through cryptocurrencies?. *The Review of Financial Studies*, 32(5), 1798-1853.
- Hasan, I., & Flamini, A. (2024). Aggregate dynamics with sectoral price stickiness heterogeneity and aggregate real shocks. *Journal of Money, Credit and Banking*. <https://doi.org/10.1111/jmcb.13149>
- Hasan, I., Kwak, B., & Li, X. (2024). Financial technologies and the effectiveness of monetary policy transmission. *European Economic Review*, 161, 104650.
- Hendri, N., Sa'diah, K., Jodi, I. W. G. A. S., Hidayat, A., Nasution, S. W. P., Mujiani, S. (2022). Evaluation of financial management information system using modification of the Delone & Mclean Model during the COVID-19 pandemic. *International Journal of Professional Business Review*, 7(5), e0732.
- Keister, T., & Sanches, D. R. (2021). Should central banks issue digital currency? (Working Paper No. 19-26). Federal Reserve Bank of Philadelphia.
- Khan, H., Khan, Sh., & Ghafoor, A. (2023). Fintech adoption, the regulatory environment and bank stability: An empirical investigation from GCC economies. *Borsa Istanbul Review*, 23(6), 1263-1281.
- Knieps, G. (2015). *Network economics*. Springer.
- Kumar, P., Taneja, S., Bhatnagar, M., Kaur, A. (2024). *Navigating the digital paradigm shift: Designing CBDCs for a transformative financial landscape*. IGI Global.
- Kwon, Y., Lee, J.-D., & Owens, J. (2023). Managing Fintech risks: Policy and regulatory implications. *ADB Briefs*, 245.
- Langley, P.A., & Leyshon, A. (2020). The platform political economy of FinTech: Reintermediation, consolidation and capitalisation. *New Political Economy*, 26, 376-388.
- Lee, D. K. C., Yan, L., & Wang, Y. (2021). A global perspective on central bank digital currency. *China Economic Journal*, 14(1), 52-66.
- Ma, L. (2023). Study on regional financial innovation, technological progress bias and high quality economic development. *Applied Mathematics and Nonlinear Sciences*, 9(1), 1-14.
- Pathe, T. (2024, April 8). Fintech funding shows signs of stalling in latest CB Insights report. *Fintech Futures*. <https://www.fintechfutures.com/2024/04/fintech-funding-shows-signs-of-stalling-in-latest-cb-insights-report/>
- Sadiq, M., Aysan, A., & Kayani, U. (2023). Digital currency and blockchain security in accelerating financial stability: A mediating role of credit supply. *Borsa Istanbul Review*, 23(6), 1251-1262.
- Shiller, R. J. (2015). *Irrational exuberance: Revised and expanded* (3rd ed.). Princeton University Press.
- Sironi, P. (2021). *Banks and Fintech on platform economies: Contextual and conscious banking*. Wiley.
- Staley, I. (2023). *A financial paradigm shift: How distributed ledger technology can enhance and sustain economies*. GRIN Verlag.
- Sustainable Finance Market Size, Share and Trends* (2022). Grand View Research. <https://www.grandviewresearch.com/Industry-analysis/sustainable-finance-market-report>
- Thompson, S. (2021). *Green and sustainable finance: Principles and practice*. Kogan Page.
- UN (2021). Sustainable finance surges despite volatile markets during COVID-19. UNCTAD Press Release. <https://unctad.org/press-material/sustainable-finance-surges-despite-volatile-markets-during-covid-19-says-un-report>
- Westra, R. (2024). *The political economy of post-capitalism: Financialization, globalization and neofeudalism*. Routledge.
- Yamaoka, H. (2022). Digital currencies and the future of money. In: *The Future of Financial Systems in the Digital Age* (pp. 49-73). Springer.

Primary Paper Section: A

Secondary Paper Section: AE