



FinTech, Financial Inclusion, and Global Financial Stability

Fadlila Isnaini¹

¹ Universitas Diponegoro, Semarang, Indonesia

Abstract

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This study aims to analyze the relationship between financial technology, financial inclusion, and global financial stability using a Systematic Literature Review approach. By reviewing several core and supporting articles published within the past five years, the research reveals that FinTech plays a dual role as both a catalyst for economic efficiency and a potential source of systemic risk. FinTech has been shown to enhance financial stability by improving access to formal financial services, reducing transaction costs, and enabling greater diversification of financial risks. However, this rapid digital transformation also introduces new challenges related to data protection, cybersecurity, and the need for adaptive regulatory frameworks that can respond to technological innovation. The analysis indicates that digital financial inclusion contributes to economic resilience and broadens financial participation when supported by strong consumer protection policies and adequate financial literacy. Therefore, this study emphasizes the importance of close collaboration among regulators, financial institutions, and the technology sector in building an inclusive, resilient, secure, and sustainable digital financial system in the era of global digital transformation.



1. Introduction

The development of digital technology in the last decade has brought fundamental changes to the landscape of the global financial industry. This transformation gave birth to the phenomenon of financial technology (FinTech), which is an innovation in financial services that utilizes technological advances to improve the efficiency, accessibility, and transparency of the financial system (Lemma, 2020). FinTech not only speeds up the transaction process and lowers operational costs, but also expands financial inclusion by reaching groups of people who previously did not have access to conventional banking institutions (World Bank, 2021). Through payment digitization, peer-to-peer lending systems, and online investment platforms, FinTech is the driving force for inclusive and efficiency-oriented digital economy transformation. This change confirms that digital technology, if managed properly, can be a key instrument in creating a resilient and equitable financial system.

FinTech growth is taking place rapidly in various countries, especially after the 2008 global financial crisis and during the COVID-19 pandemic, when economic activity relied on digital solutions to maintain transaction sustainability (Rabbani et al., 2021). Digital financial platforms are an important alternative for individuals and small and medium-sized businesses in maintaining economic activities amid social restrictions. However, behind these opportunities, there are also significant risks to the stability of the financial system, such as liquidity risks, cyberattacks, systemic dependence on technology networks, and moral hazards in the use of financial data (Minto et al., 2017). These risks have the potential to shake the stability of the

financial system if not balanced with adequate governance and regulation. Therefore, the relationship between FinTech and financial stability is dynamic—offering efficiencies on the one hand, while presenting supervisory challenges on the other.

Several studies have concluded that FinTech can contribute positively to the stability of the financial system through increased intermediation efficiency, risk diversification, and transaction transparency (Yao & Song, 2021). Digital technology reduces information asymmetry between providers and users of financial services, speeds up the process of disbursing credit, and expands the base of the formal economy. However, on the other hand, the complexity of FinTech's business model which involves data integration across platforms and jurisdictions poses new challenges for regulators. Reliance on digital technologies creates new potential systemic risks that cannot always be identified through traditional oversight mechanisms (IMF, 2019). For example, algorithmic system failures or leaks of user data can have a broad chain impact on public trust and financial market stability.

In the context of financial inclusion, FinTech plays a central role in expanding people's access to formal financial services. Through digitalization, geographical barriers and transaction costs can be significantly reduced, allowing more individuals to participate in the financial system. This increase in access has been proven to strengthen economic resilience by expanding the customer base and encouraging macrofinancial stability (Vo et al., 2019). However, the high level of inclusion without adequate regulation can actually create new risks, such as non-performing credit, consumer exploitation, and misuse of personal data (FSB, 2019). Therefore, efforts to expand financial inclusion need to be accompanied by strict consumer

surveillance and protection policies so that digital transformation truly contributes to stability.

In addition, the emergence of the concept of RegTech (regulatory technology) is the answer to the complexity of supervision in the digital era. RegTech enables regulators to use technologies such as big data analytics and artificial intelligence to detect potential systemic risks more quickly and efficiently. Adaptive regulation is an important prerequisite to ensure that FinTech growth does not compromise the security of the financial system. According to Thomä and Chenet (2017), international institutions such as the Financial Stability Board (FSB) have a strategic responsibility in monitoring the emerging risks of financial digitalization and designing a consistent global policy framework. Thus, collaboration between regulators, financial institutions, and technology providers is the main foundation in maintaining a balance between innovation and stability.

Based on this context, this study aims to examine the role of FinTech in supporting financial system stability through the Systematic Literature Review (SLR) approach. The study traces the results of empirical and conceptual research published in the past five years to identify patterns of relationships between FinTech, financial inclusion, and global financial system stability. Through this approach, it is hoped that a comprehensive understanding of risk mitigation strategies, regulatory challenges, and policy directions needed to realize an inclusive, safe, and sustainable digital financial system in the era of technology-based global economy will be obtained.

2. Literature Review

2.1. FinTech and Financial System Stability

FinTech is a global phenomenon that has significantly changed the structure and dynamics of the financial system. This technology-based financial innovation is considered to have two sides: on the one hand it encourages the efficiency and accessibility of financial services, on the other hand it can pose a risk to the stability of the financial system (Ahmad, 2018). According to Vučinić (2020), FinTech can strengthen financial stability by improving intermediation efficiency and expanding risk diversification, especially through peer-to-peer lending mechanisms, digital payment systems, and blockchain technology. The technology accelerates capital circulation and strengthens the reliability of payment systems.

However, this dynamic also poses new challenges for regulators. High reliance on digital systems increases cyber risks and complicates cross-border supervision, especially in non-bank sectors that are not strictly regulated (IMF, 2019). In the long run, an imbalance between innovation and oversight can lead to macroeconomic instability. Therefore, strengthening digital financial governance through risk mitigation policies is the main agenda for regulatory institutions such as the Financial Stability Board (FSB) and central banks in various countries. The complex relationship between FinTech and financial stability can be a catalyst for growth as well as a potential source of systemic vulnerability if not carefully regulated. Therefore, research on the balance between FinTech innovation and financial stability continues to be a strategic issue in contemporary digital economy studies.

2.2. Financial Inclusion and Digital Transformation

Financial inclusion is a fundamental element in realizing a sustainable and resilient financial system to global economic changes. In this context, financial technology (FinTech) plays a strategic role in expanding people's access to formal financial services through various digital innovations, such as electronic payment systems, application-based microsavings, peer-to-peer lending services, and digital financing for small and medium-sized enterprises (World Bank, 2021). The use of this technology helps reduce the financial gap, expand the reach of services to remote areas, and increase the economic participation of community groups that were previously not served by conventional financial institutions. Thus, FinTech not only functions as an instrument of transaction efficiency, but also as a means of economic empowerment that strengthens macroeconomic stability and increases people's financial resilience (Vo et al., 2019).

However, digital transformation also brings significant challenges. The Rabbani et al. (2021) emphasized that increasing financial inclusion through digitalization must be balanced with consumer protection policies, data security, and increasing digital financial literacy. Reliance on technology creates new risks, such as misuse of personal data, online fraud, and digital exclusion for groups that do not have adequate technological capabilities. Therefore, the development of sustainable financial inclusion requires close collaboration between regulators, the financial industry, and society to ensure that the benefits of digitalization can be felt equally. In the perspective of the global economy, FinTech doubles as an agent of growth and a guardian of stability. When regulated and managed with good governance,

digital innovation can strengthen the resilience of the financial system, reduce systemic risks, and create a financial ecosystem that is inclusive, adaptive, and resilient to future technological disruptions.

3. Method

This study uses the Systematic Literature Review (SLR) method to examine the relationship between FinTech, financial inclusion, and financial system stability in the global context in the last five years. The SLR approach was chosen because it allows a comprehensive analysis of various empirical and conceptual studies to identify patterns, gaps, and directions of research development in this field. The research procedure follows the general stages in SLR, namely: (1) formulation of research questions, (2) identification and selection of literature, (3) evaluation of study quality, (4) data extraction, and (5) synthesis of findings.

The first stage begins with the formulation of the main question: what is the relationship between FinTech development, financial inclusion, and financial system stability over the last five-year period? This question is the basis for determining the criteria for inclusion and exclusion of literature. The second stage is to search for scientific articles through databases such as Google Scholar, Elsevier, and ResearchGate with the keywords “FinTech,” “financial inclusion,” “financial stability,” and “risk regulation.” The selected articles are limited to the last five-year publication period, are published in reputable academic journals, and have empirical relevance to the research variables. From this selection process, several main articles and supporting articles were obtained that met methodological and thematic criteria.

The third stage is a quality assessment by considering aspects of methodological validity, theoretical relevance, and conceptual contribution. Articles that have a methodological bias or do not present an explicit relationship between FinTech and financial stability are excluded from the analysis list. Furthermore, at the data extraction stage, each article is coded based on key variables such as the type of FinTech (digital payments, peer-to-peer lending, crowdfunding), indicators of financial stability (capital ratio, liquidity, systemic risk), and the policy approach used.

The final stage in the form of data synthesis is carried out with a narrative and thematic approach, which aims to find causal relationships and differences of views between studies. Through the SLR method, this study not only maps the results of previous research but also provides a new conceptual framework on how FinTech innovations can strengthen financial inclusion and ultimately support financial system stability in a sustainable manner. This approach is expected to produce a comprehensive picture that can be used as a reference for regulators and researchers in designing adaptive and secure digital financial policies.

4. Results

The development of financial technology (FinTech) has fundamentally changed the landscape of the financial sector in the last five years. A systematic review of a number of key and supporting articles reveals that FinTech has a transformative impact on the inclusion and stability of the financial system in various countries. The literature synthesis identifies three major interrelated patterns: (1) FinTech serves as a catalyst for efficiency improvement and expansion of financial

access; (2) there is a strong positive relationship between digital financial inclusion and financial system resilience; and (3) the emergence of new systemic risks that require adaptive policy and governance updates to keep FinTech growth in the corridor of stability.

FinTech has proven to have a unique ability to significantly expand the reach of financial services, overcoming geographical and structural barriers that have limited access for non-bankable groups. Digitization of payment systems, peer-to-peer lending, crowdfunding, and app-based banking services are key manifestations of FinTech's role as a driver of inclusion.

The study by Rusdianasari (2018) explicitly confirms that integration between FinTech and financial inclusion policies plays an important role in strengthening financial system stability. This increase in inclusion occurs through increased public trust in formal financial institutions, as services become more accessible and transparent. Mechanically, digital technology allows the flow of funds from the surplus sector to the deficit sector to move faster and more efficiently, with much lower transaction costs compared to conventional models. This efficiency not only strengthens the function of financial intermediation, namely the distribution of funds from savers to borrowers, but also directly increases the capacity of the real sector in supporting national economic growth. When Micro, Small, and Medium Enterprises (MSMEs) get easier and faster access to financing through FinTech platforms, they can increase productive activities, ultimately underpinning macroeconomic resilience.

The impact of FinTech is increasingly evident during the crisis. The World Bank (2021) recorded a significant finding that the rapid growth of digital transactions during the COVID-19 pandemic has succeeded in increasing people's access to finance in developing countries by more than 20% compared to the pre-pandemic period. This figure shows that digitalization is not only incremental, but also plays a strategic role in maintaining the sustainability of economic activities amid global uncertainty and mobility restrictions. FinTech enables households and small businesses to stay connected to the formal financial system through flexible digital platforms, thus acting as an economic safety net. Therefore, FinTech is a bridge that connects technological innovation with economic inclusion, making a tangible contribution to global financial resilience.

The effectiveness of FinTech in supporting financial stability is closely dependent on two key factors: regulatory capacity and the readiness of a country's digital infrastructure. FinTech can strengthen the financial system in a variety of ways. Minto et al. (2017) highlight improved operational efficiency, risk diversification through the spread of services to a wider segment, and increased liquidity between financial institutions. This mechanism helps to dampen potential shocks that may be centered at a single point. For example, with lending platforms and investment platforms, the productive sector gets more diverse sources of financing, reducing pressure on conventional banks.

However, behind the benefits of diversification, there is potential instability that must be watched out for if risk surveillance is not going strongly. Credit risk and cyber risk are the two main threats. The lending and investment platform sectors do

open up new financing opportunities, but they also increase the potential for non-performing loans if the risk assessment and mitigation mechanisms, which are often dominated by algorithms, do not run optimally. The relationship between FinTech and financial stability is non-linear and is greatly influenced by the maturity level of the digital ecosystem in a country. The IMF (2019) stated that in developing countries, FinTech generally has a strong positive role in financial inclusion. However, in developed countries, the growth of FinTech that is too fast can actually pose the risk of excessive liquidity, increase market volatility, and even potentially disrupt monetary stability due to the complex interaction between new players (FinTech) and traditional financial institutions.

Chatterjee's (2020) research on 26 banks in emerging markets reinforces the view that the gradual adoption of FinTech technology can improve financial stability through operational efficiency and a reduction in non-performing loan ratios. However, they provide an important note: at some stage, increased digital adoption that is not accompanied by an increase in people's financial literacy can magnify the systemic risks of errors and misuse of digital services by misunderstood users. This emphasizes that the maturity of adoption must be balanced with the maturity of user understanding.

Along with its benefits, FinTech is introducing new forms of systemic risk that demand global policy and governance reform. Yao and Song (2021) identified three main risks arising from FinTech: (1) increased cyber risks due to reliance on technological infrastructure; (2) the risk of personal data leakage that threatens consumer trust; and (3) regulatory arbitrage. This last risk occurs when business

actors take advantage of legal loopholes between jurisdictions to evade oversight, a phenomenon that often arises because FinTech regulations in various countries are not fully harmonious and adaptive to the rapid pace of technological change. Therefore, the stability of the financial system in the digital age is highly dependent on the ability of regulators to strike a balance between the drive for innovation and the necessity of effective supervision. Regulatory and governance factors are the main determining elements in maintaining this balance.

Thomä and Chenet (2017) explained that international institutions such as the Financial Stability Board (FSB) have a crucial role in developing a FinTech supervisory framework that can be applied across countries. In the FSB report (2019), three key challenges in FinTech regulation were identified that highlight the need for global coordination: (1) inconsistencies in international standards between jurisdictions; (2) limited technology supervision capacity (regulators are less able to keep pace with the speed of technological innovation); and (3) there is no globally integrated consumer protection mechanism. This underlines that digital financial policies must be designed through close collaboration between regulators, financial institutions, and technology service providers so that FinTech innovations can thrive without threatening system stability.

On the other hand, research by Suryono et al. (2020) through a systematic literature review approach shows that FinTech contributes to bank resilience by facilitating the detection of systemic risks through the use of big data analytics and AI. Nonetheless, the biggest challenge arises in the aspects of cyber resilience and data privacy protection, which are key in preventing systemic disruptions that can

spread rapidly through digital networks. The Paryudi (2021) reinforces these findings by stating that the success of digital financial transformation is not only determined by the speed of technology adoption, but also by policy clarity that ensures transparency, security, and inclusivity for all users.

Even in countries with advanced economies, as researched by Xu et al. (2021), FinTech has a positive relationship with financial stability as long as its growth is controlled through adaptive monetary and fiscal policies. They emphasized the importance of the central bank's role in integrating macroprudential regulation with financial innovation so that FinTech growth can support long-term stability. Lim et al. (2019), which researched FinTech credit platforms in Africa, also found that increasing financial inclusion through FinTech can actually reduce macrofinance risks by diversifying funding sources and reducing over-reliance on conventional banking systems.

Finally, social factors such as digital literacy and consumer behavior greatly influence FinTech relationships and financial stability. The Paryudi (2021) highlights that low digital literacy can increase the risk of online fraud and digital financial exclusion, especially in low-income groups of people who should be targeted for inclusion. Digital financial literacy is the main prerequisite for people to be able to use FinTech services safely and productively. When users understand the risks and how digital financial services are used, the potential disruption to financial system stability due to individual errors can be significantly suppressed, transforming FinTech from a source of risk to a source of resilience.

Based on the results of a comprehensive literature synthesis, FinTech is a key determinant in maintaining the balance and sustainability of the global financial system, not just a tool for economic transformation. There are three main prerequisites for FinTech to be a positive catalyst for global financial system stability: (1) adaptive, dynamic, and consistent regulation across jurisdictions; (2) adequate and continuous digital financial literacy of the community; and (3) technology infrastructure that is secure, resilient to cyber attacks (cyber resilient), and inclusive.

Without these three elements, FinTech growth risks creating new sources of instability, such as access inequality, increased cyber risk, and the potential for far-reaching financial system failures. Lemma (2020) emphasized that the future of the digital financial system will depend heavily on the ability of regulators and industry players to integrate innovation with the principles of prudential balance, transparency, and good governance. Cross-sectoral collaboration between regulators, financial institutions, and technology providers is an essential requirement for the creation of a digital financial ecosystem that is resilient to disruption and oriented towards long-term sustainable economic development.

5. Discussion

Financial Technology (FinTech) has a paradoxical strategic role, namely as a driving force as well as a test of the resilience of the global financial system. On the one hand, FinTech is a major catalyst for efficiency, which is characterized by the acceleration of the financial intermediation process, the reduction of transaction costs, and the expansion of people's access to financial services (Gomber et al.,

2018). This positive impact also strengthens market liquidity and increases transaction transparency. On the other hand, however, these innovations create a new set of challenges, such as systemic risks due to massive digital dependence, potential system failures, and oversight gaps that arise due to cross-jurisdictional activities. This phenomenon underscores that FinTech, while offering efficiency and innovation, can also be a trigger for instability if it is not effectively regulated and supervised (Ahmad., 2018).

The main challenge lies in the regulatory framework. The development of FinTech without clear boundaries can trigger regulatory arbitrage, where business actors exploit differences in rules between countries to avoid oversight. This is in line with the view of Vučinić (2020) who emphasizes the importance of placing FinTech innovations within the framework of measurable and comprehensive financial stability. To address this, modern surveillance mechanisms must be data-based and real-time monitoring. Global institutions such as the Financial Stability Board (FSB, 2019) recommend the use of big data analytics and artificial intelligence (AI) to proactively anticipate systemic shocks.

In addition to regulation, the role of FinTech is also very closely related to financial inclusion. FinTech has been proven to encourage inclusion, which according to Rusdianasari (2018), increases public trust in formal systems, expands customer base, and strengthens macroeconomic resilience by spreading risks more evenly. Nonetheless, digital inclusion must be balanced with adequate financial literacy. Without an understanding of digital risks, society is vulnerable to fraud and misuse of data, which has the potential to destabilize it. The global policy aspect is

also crucial. The harmonization of policies between countries, as emphasized by Thomä and Chenet (2017), is essential to prevent cross-border regulatory arbitrage. Regulatory consistency ensures that the digital financial ecosystem remains competitive without creating global risks. Collaboration between governments, financial institutions, and technology providers, as highlighted by the Rabbani et al. (2021), is key to success in building adaptive and inclusive national economic resilience.

Conceptually, FinTech has transformed into a strategic instrument in modern macroprudential policy. Successful implementation requires transparent risk governance, supported by strong digital infrastructure, resilient cybersecurity, and capacity building for human resources in the field of financial literacy. In essence, the biggest challenge for regulators and industry is to strike a prudential balance: balancing aggressive innovation and prudential principles. When innovation and stability go hand in hand, FinTech will be a key driving force for a safer, more inclusive, and more resilient global financial system in the future.

6. Conclusion

This research confirms that the development of FinTech has become an important element in strengthening the global financial system through increased financial efficiency, accessibility, and inclusion. However, behind these opportunities are serious challenges in the form of systemic risks, data security, and the need for regulations that are responsive to technological dynamics. The Systematic Literature Review (SLR) approach shows that the relationship between FinTech and financial

stability is two-way: FinTech is able to strengthen stability when supported by good governance, but can cause instability if not adequately regulated.

Financial inclusion expanded by digital innovations has been shown to expand people's access to formal financial services, increase household economic resilience, and strengthen macroeconomic stability. However, this success is highly dependent on the readiness of digital infrastructure, people's financial literacy, and the government's ability to set policies that are adaptive to innovation. Thus, the future direction of FinTech development must emphasize the balance between innovation and risk mitigation, so that the growth of the digital financial sector does not cause systemic shocks. FinTech is not just an instrument of economic efficiency, but a catalyst for the structural transformation of the financial system towards sustainability. Collaboration between regulators, financial institutions, and the technology sector is key to ensuring that digital transformation runs safely, inclusively, and is oriented towards long-term stability.

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