

The Role of Financial Technology (FinTech) in Promoting Financial Inclusion in India

Dr. Ramesh Kumar

Assistant Professor

Department of Economics

KDS College, Gogri, Khagaria

Munger University, Munger

Email: rameshkumar2020eco@gmail.com

Abstract: FinTech and financial inclusion are key sectors in the Indian economy, contributing to accelerated economic growth and the reduction of economic constraints. This study examines a significant transition from traditional to modern economic models, characterized by the integration of economic agents with technology. India's development strategy prioritizes collaboration between the government and private sectors to achieve primary goals, including reducing income and gender disparities, accelerating economic growth, and improving financial and physical infrastructure. These outcomes facilitate the advancement of new generations and technologies, ultimately benefiting all segments of society. Financial inclusion is a core component of the government's commitment to social welfare. FinTech and financial services play a crucial role in India's economic growth, particularly by expanding access to financial services for disadvantaged populations. Significant investment, measured in billions of rupees, is required from both the government and corporate sectors to expand FinTech infrastructure. This study comprehensively analyzes the factors influencing FinTech and financial inclusion, drawing conclusions based on empirical data. The findings suggest that government policy and market advantages indicate that FinTech can enhance financial capabilities and accelerate economic growth, particularly when inequality is lower. The economy undergoes a successful financial transition. This study indicates that FinTech is positively associated with financial inclusion and that the government effectively leverages this mechanism to extend its services to all segments of society.

Keywords: Banking Services, Economic Development, Financial Inclusion, FinTech, Financial Services

Introduction: The Indian economy is considered emerging due to rising consumption and expenditure. A country's economic development reflects its capacity to accumulate capital and technology at current market prices. According to economic literature, an economy's growth rate is determined by skilled labor, capital, and technological progress. While Indian economic development shares similarities with that of other nations, evidence suggests distinctions from those of developing countries, as modern economic phenomena often evolve independently. The size of the market and the country's industrial base play key roles in determining the availability of skilled labor, capital, and technology. The Fintech sector is an emerging area within the Indian economy, driven by technological innovation and growth. Technological advancements have accelerated economic growth by facilitating the provision of financial services. Countries strive to improve their skills, labor, capital, and technology through research and innovation. Financial services now provide a platform for digitized economic activities, enabling faster transactions and greater customer satisfaction than traditional services. The government also benefits from increased tax revenues and improved administrative functions. Fintech is central to economic activities because almost all functions rely on technology. However, India's technological infrastructure is less developed than that of other advanced countries. From an investment perspective, sectors such as venture capital, green finance, and angel bonds are vital, reflecting increasing sustainability concerns among younger generations. The government and corporate sectors are working towards economic and sustainable development across all industries. Fintech companies offer various services to customers around the clock. These include the authentication, analysis, and approval of time-sensitive services for different AI platforms. The IT revolution has created numerous jobs in areas such as big data analysis, cloud computing, neural networks, virtual reality (VR), and augmented reality (AR). Fintech infrastructure relies on IT infrastructure, internet connectivity, reliable electricity, a large user base, technical support, and cybersecurity. We posit that fintech development is linked to economic growth. Theoretically, the phases of economic development are simultaneous in the

absence of economic disruptions; however, in practice, economies experience economic instability. Fintech industries are key accelerators of faster financial transactions and of access to remote areas, thereby increasing financial and economic activity. Technological advancements are evolving from product components to modular designs and specialized product lines. The current landscape is characterized by strong demand for innovation and substantial financial investment in the development of new products and services. Within the FinTech sector, competition is fierce, and there is a pronounced reliance on capital, resulting in an uneven distribution of industry clusters across regions. The fintech industry has the potential for rapid growth in production processes; however, core industries often lag in automation and financial mobility. This situation arises because the economic framework and financial structure of industries dominated by small firms rely heavily on exchange mechanisms. Individuals who do not engage in any form of production may not fully benefit from fintech, as the industry primarily emphasizes services rather than products. We examine the key strengths and challenges of the fintech industry, particularly from the perspective of financial inclusion. Below, we address several important factors.

Platform economies fundamentally shape economic development, particularly as production transitions from traditional to technology-driven methods. Each country's market structure evolves to achieve the desired economic growth levels. A country's capacity depends on its GDP, international trade volume, growth rate, terms of trade, and inflation rate. Economic decisions are equally crucial for both governments and businesses. Currently, the platform economy predominantly influences India's market, which is characterized by a monopolistic structure, largely driven by technological advancements, financial capital, and skilled labor, resulting in a significantly expanded fintech sector. The Fintech industry is capital-intensive and focuses on expanding services and returns. The structure of the Indian economy reflects notable changes in the composition of output driven by shifts in consumer behavior.

Acceptance of artificial intelligence is increasingly prevalent in leading Fintech practices, which involve developing computational and organizational mechanisms to maintain customer trust and technical efficiency. Economic agents frequently exhibit lower confidence, particularly in transactions intercepted by authorities; however, the development of AI is likely to increase consumer trust in technology. The growth of Fintech is connecting people globally and facilitating economic activity. Fintech activities are democratic and emphasize decentralized services across different economic levels. This process supports financial inclusion. Furthermore, AI is associated with a kinked demand curve, offering consumers multiple choices to maximize satisfaction.

Supply chain upgrading in India is influenced by the country's geographical and cultural diversity, which shapes the prices of goods and services in response to demand and supply. Historically, economic recessions have resulted from imbalances in these factors. Fintech companies are actively working to fulfill the country's essential needs because they can predict future trends. Their capabilities enable the government and businesses to support supply-side economies and maintain price stability. The Government of India has initiated schemes to develop supply chain management and stimulate economic growth. Transaction costs constitute a core component of the global market economy and offer a competitive advantage. Fintech, particularly within the banking sector, enhances the accessibility and affordability of financial services for consumers. Financial inclusion remains a key policy goal for the Indian government, which is pursued through various schemes delivered by financial institutions. Data indicate a decrease in transaction costs attributable to financial engineering. Key instruments, such as Jan Dhan, Aadhaar, and Mudra (JAM), serve as indicators of financial inclusion. Policymakers should prioritize the provision of financial services based on demonstrated needs.

Revenue collection: India's economy is semi-welfare, requiring government funding for infrastructure and support for marginalized groups. Tax collection was initially low but improved with the use of banking and financial software. Government regulations have become more effective in making rational decisions. The public economy efficiently provides public goods. As India rapidly develops its financial and economic infrastructure, society is transitioning from an agrarian economy to an industrial one. Modernizing the economy increasingly relies on the fintech industry, emphasizing overall development. While other sectors may adopt fintech, banking is the most suitable because it enables financial services to reach all segments of society. This allows a more accurate assessment of the fintech's impact on financial inclusion.

Review of Literature:

A review of the existing literature is essential for investigating new paradigms in all academic disciplines. This process involves identifying key factors related to the research topic. Most scholarly research focuses on the relationship between established and emerging variables; therefore, a comprehensive review of past studies is vital to understanding these connections. The purpose of this literature review was to identify the reliability associated with complex issues. Economic variables are closely related to direct and indirect variables, confirming the research objectives. In this context, we have drawn on prior research to support our research design and confirm our research objectives. The following variables are commonly discussed in the literature review: the context of the research, the time frame during which the analysis was conducted, the sample size, the means used to measure variables, the mode of inquiry, the research objective, independent and dependent variables, and the structure of the research procedure framework. When assessing the implications of fintech and financial inclusion in a global context, we must identify commonalities across contexts. In the Indian context, we focus on progress reports from underdeveloped countries that are more similar to India than to developed countries. In this study, we provide verifiable data to support our objectives. The gender gap in financial development is a significant issue in the Indian market, influenced by low female enrollment in education, reduced participation of women in the workforce, and limited involvement of women in the corporate sector. Additionally, the Internet penetration rate plays a crucial role in influencing financial inclusion. Yeyouomo et al. (2023) examine Fintech's role in reducing the gender gap in financial inclusion in sub-Saharan Africa. Chen et al. analyzed the gender gap in FinTech across 28 countries, emphasizing the sector's significance during the COVID-19 pandemic. Coffie et al. (2022) investigated the relationship between fintech development and financial inclusion in Ghana through the lens of information technology. Banna and Hasanul focus on initiatives targeting microfinance institutions, whereas Nam et al. (2023) examine the impact of technology on different income groups in South Korea. Lyons, C. Angela et al. studied the relationship between fintech development and the demand for savings, borrowing, and remittances in the 16 largest emerging economies. Qin, Lu et al. studied how Fintech, AI, machine learning, and blockchain enhance governance and digital financial services, thereby affecting enterprises. Lisha et al. examined the relationships among sustainability, green innovations, FinTech, financial development, and natural resources in BRICS economies from 2000 to 2019. In 2019, Makina and Daniel highlighted mobile money as the most successful fintech innovation for enhancing financial inclusion in African countries. Julien Migozzi et al. noted that Indian Fintech growth is limited to certain regions. Panagariya highlighted the importance of digitalization in India's finance sector in 2022. Pradhan et al. examined economic growth, financial inclusion, and ICT development in 20 Indian states from 1991 to 2018. Barroso and Laborda (2022) analyze the impact of new technology on finance, while Boot et al. (2021) focus on its effects on intermediation. Iman (2018) emphasized the financial opportunities offered by mobile phones. Zeqiraj et al. (2022) identified several key factors contributing to financial inclusion in developing countries, including economic growth, human development, domestic credit, the financial development index, remittances, and institutional quality. Frost et al. (2022) discovered that wealthier households reaped greater benefits from financial development and technology between 1991 and 2016 than poorer households. Lee et al. (2023) examined the effects of mobile payment systems on financial inclusion and sustainability across 29 low- and middle-income Asian countries from 2014 to 2018. Patwardhan (2018) characterized financial inclusion as the process of ensuring universal access to affordable financial services through sustainable institutions. While mobile payment technology is growing worldwide, its uptake remains inconsistent, raising concerns among policymakers about its limited adoption in developing economies. This is particularly troubling given the technology's potential to greatly improve financial inclusion (Pal et al., 2021).

Research Methodology: The literature review outlines the multiple dimensions of the research structural framework, which are crucial for shaping research objectives. Previous studies have identified several factors influencing fintech and financial inclusion, including economic size, as measured by gross domestic product (GDP), financial literacy levels, payment methods, consumer attitudes, and government initiatives. Robust research methods are essential for expanding knowledge within any academic investigation. This study utilized secondary data to support these research objectives. The data primarily originated from the Reserve Bank of India and the Indian government's website. Descriptive statistics were employed to analyze and interpret the results. The decision to utilize secondary data was driven by its cost-effectiveness and efficiency in gathering the necessary information.

Research Objectives:

1. To examine the role of financial technology in advancing financial inclusion in India.
2. This study explores the correlation between fintech adoption and changes in financial behavior in India.
3. To analyze the impact of government policies on fintech growth and their effects on financial inclusion.

Research Questions:

1. What is the current status of financial inclusion in India, and what has been the contribution of FinTech?
2. What fintech innovations have had the most significant impact on financial inclusion in India?
3. What measures can policymakers and fintech firms implement to improve financial inclusion in India?

Data Analysis and Interpretation

Numerous authors have examined how economies can leverage fintech to promote financial inclusion. Geographically diverse India has an unequal distribution of financial and physical resources. However, fintech has positioned both the Indian government and corporate sectors as key stakeholders in these service sectors. Through fintech, the Indian government has made remarkable strides in upgrading technology and effectively managing resources. The research protocol was followed, and the research questions were addressed independently. Research question 01 emphasizes the current state of financial inclusion and how fintech supports it from a specific perspective. In this analysis, we integrated three key elements: technological advancements, government policies and schemes, and their combined impact on economic development, particularly in the context of financial inclusion. The Reserve Bank of India (RBI) and government policy have played significant roles in enhancing India's capabilities for financial inclusion. Regarding the first research question, evidence from the RBI underscores its effectiveness in monetary policy management. Data suggest that disparities between urban and rural India have diminished compared to previous years, largely due to improved financial management by the RBI. Consequently, financial services have become more accessible nationwide.

The initial development in the fintech sector involved financial applications utilizing blockchain technology. These applications have significant potential to connect users with banking and mobile banking services. Consequently, financial inclusion has become a central focus from a shareholder perspective. India's economic development history has largely centered on government involvement, originating from a colonial mindset that prioritized state control over the production and distribution of resources. This framework enables economic regulation and welfare policies that increase the corporate sector's market profitability. Consequently, the progress of FinTech and financial inclusion in India is driven by both government initiatives and corporate efforts to stimulate business. The creation of government financial institutions, including banking services and sector-specific schemes, aims to provide access to financial services across all segments of society. However, the complexity, functions, and behaviors of these institutions often do not adequately support individuals with lower financial literacy. To address this research question, we refer to Table 1, which illustrates the development of payment systems in Indian banking and their impact on financial inclusion.

The data presented in Table 1 indicate that the most active financial transactions are conducted through RTGS, NEFT, IMPS, and UPI. These data encompass online transaction metrics, reflecting the volume and total value of funds transferred from 2016–17 to 2024–25. The table outlines the banking transactions across various modes. The table outlines banking transactions across various modes, highlighting the strength of the Indian economy, as evidenced by the country's digital payment systems. Indian banking has developed an extensive digital infrastructure that enhances the delivery of financial products and services. Additionally, it is important to note that financial technology encompasses a broader range of services than financial products, with a primary focus on financial services. Consequently, through these financial services, financial inclusion offers a more effective means for customers to access a wide range of products and services.

Table 1: Online Payment systems indicators in India: (Value in Crores, Volume in Lakhs)

Year	RTGS		IMPS		NEFT		UPI	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
2015-16	983.4	82457800.8	2208.1	162225.6	12528.8	8327310.7	-	-
2016-17	1078.6	98190376.1	5067.3	411105.9	16220.9	12003967.7	179.7	6960.9

2017-18	1244.3	116712477.6	10098.4	892497.5	19463.6	17222851.9	9152.4	109832.3
2018-19	1366.0	135688186.7	17529.1	1590256.9	23188.9	22793608.0	53915.0	876970.7
2019-20	1506.6	131156474.9	25791.7	2337540.9	27444.7	22945579.9	125186.2	2131730.1
2020-21	1591.9	105599848.5	32783.5	2941499.5	30927.9	25130909.6	223306.6	4103657.8
2021-22	2078.3	128657516.5	46625.2	4171037.5	40407.3	28725462.8	459561.3	8415899.9
2022-23	2425.6	149946286.1	56532.6	5585441.1	52847.4	33719541.0	837143.7	13914931.6
2023-24	2700.2	170886670.4	60053.3	6495652.1	72639.5	39136014.0	1311294.7	19995085.5
2024-25	3024.6	201387682.3	56249.7	7139109.9	96198.0	44361464.3	1858660.3	26056954.7

Source: Reserve Bank of India.

The history of Indian banking demonstrates a long tradition of providing financial services; however, the establishment of the Reserve Bank of India (RBI) in 1935 fundamentally transformed the sector, shifting from traditional methods and products. Initially, the Indian banking system was predominantly privately owned, but following independence, it was nationalized. Consequently, the structure and purpose of banking services evolved. Traditionally, Indian banking transactions relied on cheque clearance systems, which were slow and time-consuming. Nevertheless, the advent of fintech has spurred rapid growth in financial transactions in recent years. Table 02 illustrates the development of payment systems in Indian banks. The table shows the distribution of total payments, including retail payments, digital payments, and paper-based instruments. The data reveal that digital payments now constitute the majority of transactions, followed by retail payments and paper-based instruments. Trends within Table 2 indicate that both retail and digital payments are increasing, while the use of paper-based instruments is decreasing. This suggests that fintech services have accelerated financial inclusion and reduced reliance on less efficient paper-based methods. The Government of India is also focused on enhancing digital financial systems to promote financial inclusion across all segments of society.

Table 2: Total Payment Systems Indicators in India: (Value in Crores, Volume in Lakhs)

Year	Total Payments		Total - Retail Payments		Total Digital Payments		Paper-based Instruments	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
2015-16	70325	100224409	69341	17766608	59361	92038330	10964	8186079
2016-17	108979	120195541	107901	22005165	96912	112099726	12067	8095815
2017-18	157615	145171804	156370	28459326	145902	136978311	11713	8193493
2018-19	243839	171959490	242473	36271304	232602	163713425	11238	8246065
2019-20	350570	169793503	349063	38637028	340155	161968681	10414	7824822
2020-21	443772	147085596	442180	41485747	437068	141458488	6704	5627108
2021-22	726767	181051566	724689	52394049	719768	174401233	6999	6650333
2022-23	1146491	215857776	1144065	65911490	1139382	208684872	7109	7172904
2023-24	1650934	250036131	1648234	79149461	1644302	242823799	6632	7212333

2024-25	222591	293313453	2222885	91925771	2219815	286200103	6095	7113350
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Source: Reserve Bank of India.

Next, we examine research question 02, which focuses on the internal determinants of financial development, specifically Fintech innovations in India. Following independence, India’s development strategy was primarily domestic; however, a lack of established financial institutions hindered sustained economic growth. After liberalization, privatization, and globalization, India imported technology from developed nations to bolster its capabilities. The country’s low labor and input costs attracted foreign direct investment, facilitating the introduction of new technologies and the production of capital goods, thereby furthering economic growth. Within open-market systems, the Indian government regulates and negotiates with foreign investors to attract investment and manage resources effectively. Furthermore, the Indian educational system fosters innovation through science and technology. The Indian education system is undergoing a paradigm shift. The Government of India and various state governments have focused on improving the education system to support innovation. Numerous central and state schemes, including Startup India, Make in India, Standup India, Digital India, Smart City, EPG, Trade Park, EPZ, PMJDY, and MUDRA, provide financial support to citizens and support the development of technological infrastructure. To support these arguments, we present data addressing the research question.

The third data table presents the status of the Pradhan Mantri Jan-Dhan Yojana, an initiative designed to ensure that all households and individuals have a bank account. As shown in Table 3, public sector banks, regional rural banks, and private and cooperative banks provide the highest levels of banking services.

Table 3: Pradhan Mantri Jan-Dhan Yojana (all figures in Crore) Beneficiaries as on 27/08/2025

Bank Name / Type	Number of Beneficiaries at rural/semi-urban centre bank branches	Number of Beneficiaries at urban metro bank branches	No. of Rural-Urban Female Beneficiaries	Number of Total Beneficiaries	Deposits in Accounts (In Crore)	Number of Rupay Debit Cards issued to beneficiaries
Public Sector Banks	27.52	16.15	24.08	43.66	206069.87	33.45
Regional Rural Banks	9.09	1.50	6.16	10.59	50693.10	3.85
Private Sector Banks	0.78	1.07	1.04	1.85	7691.93	1.50
Rural Cooperative Banks	0.19	0.00	0.10	0.19	0.01	0.00
Grand Total	37.58	18.72	31.38	56.29	264454.91	38.80

Source: <https://www.pmjdy.gov.in/account>

According to these data, we infer that financial inclusion in India is most strongly associated with public-sector banks. The government regulates these banks to serve all sectors of the economy, particularly the marginal sector. However, the financial health of public-sector banks has recently weakened, prompting the Government of India to enact mergers and acquisitions (M&A) legislation aimed at improving performance. Consequently, the question arises as to why the Indian public-sector banking system does not perform as effectively as private or foreign banks in terms of profitability. Is there a relationship between zero-balance accounts and banking performance? This is because, in the PMJDY scheme, a large number of accounts are opened with zero account balances.

We now turn to research question 03, which emphasizes the role of government in the Fintech sector. The fintech sector is an emerging sector worldwide. The Fintech sector is an emerging global industry that requires substantial financial and human resources to establish startups ranging from micro to global scale. The Fintech sector in India faces several challenges, including outdated technology, varying service provider sizes, high security costs, limited financial support, limited awareness, low internet penetration, electricity issues, insufficient government support, and deficiencies in the Indian education system. Concerns regarding financial inclusion in India highlight economic, social, and political disparities stemming from unequal access to education and financial services. While some Indian states and cities have benefited from Fintech development, many underprivileged communities continue to struggle to compete. Financial inclusion in India has significantly improved since its independence. However, because bank accounts were opened through PMJDY and transactions were made through MUDRA schemes, the improvement occurred more quickly between 2014 and 2025. The RBI established the National Centre for Financial Education and plans to expand the reach of the Centers for Financial Literacy (CFLs) to every block in the country. These steps aim to promote financial education across India for all social groups. PMJDY account holders, with more than 55% of account holders being women. Notably, PMJDY account holders, representing more than 55% of all account holders, have demonstrated a significant impact; in 2020–21, ₹5.53 lakh crore was transferred digitally across 319 government schemes spanning 54 ministries. Success rates with need-based credits remain comparatively lower. In response to my previous research question, we recommend policy initiatives to support beneficiaries of Fintech and financial services by expanding access to financial resources as needed. The following recommendations are as follows:

1. Government financial and technological support is essential for the development of Fintech infrastructure and product components within technological advancements.
2. The government's procurement policy requires alteration, particularly within the retail market.
3. Entrepreneurs focus on producing goods and services to meet global needs.
4. Educational systems require updating to accommodate these technological advancements.
5. Private and corporate sectors should prioritize capacity-building programs for technical staff.
6. Indian universities should collaborate with world-class institutions via joint ventures to upgrade their technologies.
7. The banking sector should invest in emerging sectors characterized by higher rates of return and accelerated technological development.
8. Therefore, public-private partnership models should be introduced globally to achieve this goal.
9. Each sector of the economy should establish a think tank to thoroughly analyze national requirements for quality improvement.
10. Modifications to text systems are necessary, especially for new learners.

Conclusions:

The role of fintech in financial inclusion is a vital study in the Indian economy. Fintech is a core strength of the Indian economy. Financial inclusion is an essential component of the economic perspective, given India's large population, high economic inequality, significant employment challenges, the changing global order, shifting geopolitics, critical technological infrastructure for global connectivity, and cybersecurity concerns in the Indian economy. Policymakers should review each sector of the economy and analyze the requirements for technological support to facilitate further growth. Since its independence, the Government of India has implemented programs and policies across various sectors. However, the Comptroller and Auditor General of India (CAG) report indicates a low success rate for policies and programs, largely due to the complexity of administrative initiatives and social structures. In the current context, economic development is effectively achieved through fintech, which is a key component of India's national priority agenda. Addressing these challenges—through collaboration between the government and corporate sectors—will enable India to grow faster, reduce disparities, and achieve its objectives.

References:

1. Banna, H., Mia, M. A., Nourani, M., & Yarovaya, L. (2021). Fintech-based financial inclusion and risk-taking of microfinance institutions (MFIs): Evidence from Sub-Saharan Africa. *Finance Research Letters*, 45, 102149. <https://doi.org/10.1016/j.frl.2021.102149>
2. Barroso, M. & Laborda, J. (2022). Digital transformation and the emergence of the fintech sector: A systematic literature review. *Digital Business*, 2(2), 100028. <https://doi.org/10.1016/j.digbus.2022.100028>
3. Boot, A., Hoffmann, P., Laeven, L., & Ratnovski, L. (2020). FinTech: What's old, what's new? *Journal of Financial Stability*, 53, 100836. <https://doi.org/10.1016/j.jfs.2020.100836>
4. Chaklader B., Gupta B. B., Panigrahi P. K. (2023). Analyzing the progress of fintech companies and their integration with new technologies for innovation and entrepreneurship. *Journal of Business Research*, 161, 113847. <https://doi.org/10.1016/j.jbusres.2023.113847>
5. Chen, S., Doerr, S., Frost, J., Gambacorta, L., & Shin, H. (2023). The fintech gender gap. *Journal of Financial Intermediation*, 54, 101026. <https://doi.org/10.1016/j.jfi.2023.101026>
6. Coffie, C. P. K., & Hongjiang, Z. (2022). Fintech market development and financial inclusion in Ghana: Role of heterogeneous actors. *Technological Forecasting and Social Change*, 186, 122127. <https://doi.org/10.1016/j.techfore.2022.122127>
7. Frost, J., Gambacorta, L., & Gambacorta, R. (2022). The nexus between wealth inequality, financial development, and financial technology. *Journal of Economic Behavior & Organization*, 202, 429–451. <https://doi.org/10.1016/j.jebo.2022.08.011>
8. Iman, N. (2018). Is mobile payment relevant in the fintech era? *Electronic Commerce Research and Applications*, 30, 72–82. <https://doi.org/10.1016/j.elerap.2018.05.009>
9. Lee, C., Chen, P., & Chu, P. (2022). Green recovery through financial inclusion of mobile payments: A study of low- and middle-income Asian countries. *Economic Analysis and Policy*, 77, 729–747. <https://doi.org/10.1016/j.eap.2022.12.012>
10. Lisha, L., Mousa, S., Arnone, G., Muda, I., Huerta-Soto, R., & Shiming, Z. (2022). Natural resources, green innovation, fintech, and sustainability: A fresh insight from BRICS. *Resources Policy*, 80, 103119. <https://doi.org/10.1016/j.resourpol.2022.103119>
11. Lyons A. C., Kass-Hanna J., Fava, A. (2021). Fintech development and savings, borrowing, and remittances: A comparative study of emerging economies. *Emerging Markets Review*, 51, 100842. <https://doi.org/10.1016/j.ememar.2021.100842>
12. Makina, D. (2019). The potential of FinTech to enable financial inclusion. In *Elsevier eBooks* (pp. 299–318). <https://doi.org/10.1016/b978-0-12-814164-9.00014-1>
13. Nam, Y., & Lee, S. T. (2023). Behind the growth of FinTech in South Korea: The digital divide in the use of digital financial services. *Telematics and Informatics*, 81, 101995. <https://doi.org/10.1016/j.tele.2023.101995>
14. Pal, A., Herath, T., De, R., & Rao, H. R. (2021). Why do people use mobile payment technologies, and why do they continue to use them? Examination and Implications in India. *Research Policy*, 50(6), 104228. <https://doi.org/10.1016/j.respol.2021.104228>
15. Panagariya A (2022). Digital revolution, financial infrastructure, and entrepreneurship: The case of India. *Asia and the Global Economy*, 2(2), 100027. <https://doi.org/10.1016/j.aglobe.2022.100027>
16. Patwardhan, A. (2017). Financial inclusion in the digital age. In *Elsevier eBooks* (pp. 57–89). <https://doi.org/10.1016/b978-0-12-810441-5.00004-x>
17. Pradhan, R. P., Arvin, M. B., Nair, M. S., Hall, J. H., & Bennett, S. E. (2021). Sustainable economic development in India: Dynamics of financial inclusion, ICT development and economic growth. *Technological Forecasting and Social Change*, 169, 120758. <https://doi.org/10.1016/j.techfore.2021.120758>
18. Qin, L., Aziz, G., Hussan, M. W., Qadeer, A., & Sarwar, S. (2023). Empirical evidence of fintech and green environments: Using green finance as a mediating variable. *International Review of Economics & Finance*, 89, 33–49. <https://doi.org/10.1016/j.iref.2023.07.056>
19. Tay, L., Tai, H., & Tan, G. (2022). Digital financial inclusion: A gateway to sustainable development. *Heliyon*, 8(6), e09766. <https://doi.org/10.1016/j.heliyon.2022.e09766>

20. Yeyouomo, A. K., Asongu, S. A., & Agyemang-Mintah, P. (2023). Fintech and the Gender Gap in Financial Inclusion in Sub-Saharan African Countries. *Women's Studies International Forum*, 97, 102695. <https://doi.org/10.1016/j.wsif.2023.102695>
21. Zeqiraj, V., Sohag, K., & Hammoudeh, S. (2022). Financial inclusion in developing countries: Do quality institutions matter? *Journal of International Financial Markets Institutions and Money*, 81, 101677. <https://doi.org/10.1016/j.intfin.2022.101677>
22. Zou, Z., Liu, X., Wang, M., & Yang, X. (2023). Insight into Digital Finance and Fintech: Bibliometric and Content Analysis. *Technology in Society*, 73, 102221. <https://doi.org/10.1016/j.techsoc.2023.102221>