

Analyzing the Impact of Fintech Development on Indonesia’s Economic Growth: The Mediating Role of the Financial Sector’s GDP

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ABSTRACT: Fintech is identified as an innovation in the financial services industry that applies digital technology to provide faster, simpler, and more efficient financial services. From a macroeconomic perspective, the rapid growth of fintech and its contribution to the financial sector could encourage economic growth in Indonesia. This study aims to analyze the impact of fintech development on Indonesia’s economic growth through the financial sector’s GDP as a mediating variable. This study uses a quantitative method, utilizing quarterly data from 2018 to 2024, and conducts mediation analysis using the PROCESS Macro Model 4 in SPSS. The results show that the number of fintech firms has no direct significant effect on economic growth; however, it does have a significant indirect influence on growth through the financial sector. Meanwhile, total loan disbursement impacts Indonesia’s GDP directly and through the financial industry. In addition, financial services also contribute significantly to the national GDP. These results show that optimizing the economic impact of the financial sector depends on enhancing its capacity to respond to fintech innovation. The study suggests that policymakers, such as government officials and entrepreneurs, should prioritize improving financial sector integration to leverage the advantages of Fintech expansion for national economic growth.

KEYWORDS: Economic Growth, Fintech, Financial Sector, Indonesia

INTRODUCTION

The economy is at risk of instability and occasionally enters turbulent crisis episodes. The present financial crisis has highlighted the significance of financial disputes for business cycles and raised financial stability concerns (Brunnermeier & Sannikov, 2014). The emergence of new financial technology in finance, such as electronic money, mobile money, digital banking, crowdfunding platforms (Allen et al., 2021), and distributed ledger technology, is unprecedentedly transforming the financial landscape (Mashamba & Gani, 2023). The question is whether financial innovation stabilizes or destabilizes the financial system in Indonesia. Digitalization may be a crucial driver of increased productivity and prosperity (Sedik et al., 2019). However, fintech development makes financial inclusion a realizable objective and has significant implications for the financial sector and macroeconomic stability (Huang, 2020). Fintech development in Indonesia has directly or indirectly contributed to a 25.97 trillion IDR increase in the country’s Gross Domestic Product in 2018. This fact demonstrates that fintech has boosted the Indonesian economy on a macro scale (Sukirno, 2018). Within the scope of the macroeconomy, the financial sector is a transmission tool for monetary policy. Thus, the shock experienced by the financial industry also affected the effectiveness of monetary policy (Ingrid, 2006).

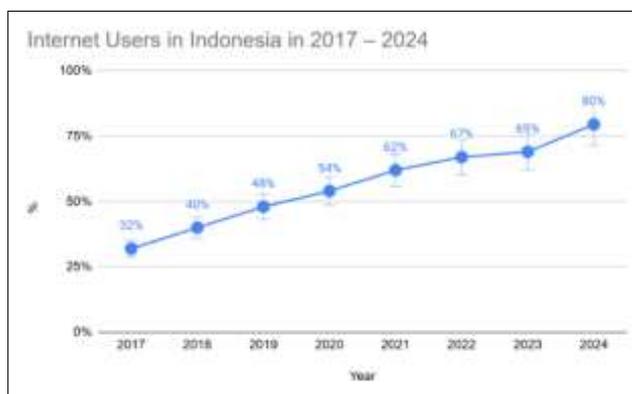


Figure 1. Internet Users in Indonesia in 2017 – 2024 (% of the Population)

Figure 1 shows that the number of internet users in Indonesia in 2024 has reached 79.5%, or more than 223 million people (APJII, 2024). The use of technology and the internet has experienced exponential growth in recent years and is predicted to continue to experience rapid increases in the coming years. The rise encouraged the government to replace the old system with digital technology, such as the development of supervision of the financial services system using IT-based and strengthening regulations and integrated supervision for financial business (Sihombing, 2021).

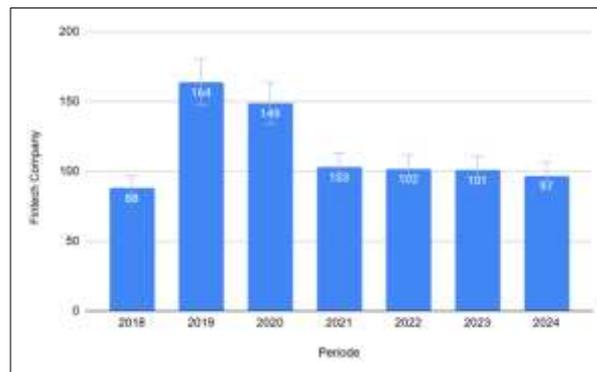


Figure 2. Development of the Number of Fintech Firms in Indonesia (2018-2024)

Figure 2 illustrates that Indonesian fintech companies experienced rapid growth, increasing from 88 in 2018 to 164 in 2019, driven by the fintech boom. By 2024, the number had dropped to 97 from 2020. Market consolidation, the COVID-19 pandemic, and natural selection in a competitive business helped drive this decline. Instead of a downturn, the decline shows that only strong business models and regulatory compliance survive and grow. Candy et al., (2022) also mentioned that the COVID-19 pandemic has impacted numerous sectors, including the fintech industry. The sudden shock brought by the pandemic disrupted many fintech companies, pushing most of them to adopt new strategies and innovations to sustain their businesses.

This study examines how fintech development affects Indonesia's economic growth through the mediating role of the financial sector's GDP. The results of this study can become a new perspective for various parties, such as the fintech business, policymakers, and future researchers interested in conducting a comprehensive fintech utilization in Indonesia and its impact on national economics.

LITERATURE REVIEW

A. Financial Technology Revolution

Financial technology (Fintech) is an innovation in the financial services industry that utilizes technology. Fintech products are usually systems built to carry out a specific financial transaction mechanism (OJK, 2023). Fintech regulations in Indonesia are still incomplete and scattered, but the Financial Services Authority and Bank Indonesia, as payment system authorities, have issued regulations regulating fintech specifically (Abubakar & Handayani, 2018). The following rules govern Financial Technology in Indonesia:

- 1) Otoritas Jasa Keuangan No 77/POJK.01/2016 Concerning Lending Services on an Information Technology Basis.
- 2) Bank Indonesia Regulation Number 18/40/PBI/2016 Regarding Payment Transaction Processing.
- 3) Bank Indonesia Regulation Number 19/12/PBI/2017 Regarding Implementation of Financial Technology.

B. Financial Technology on Economic Growth

Countries with higher economic levels tend to have more digital transactions. The estimation results also indicate that the velocity of the money supply will increase considerably as fintech transactions increase in the economy. The result of a study conducted by Sanga & Aziakpono (2022) indicates that technological factors have a statistically significant and positive impact on financial deepening in Africa for both bank deposits as a percentage of GDP and bank credit to the private sector as a percentage of GDP. On the other hand, Harahap et al., (2017) mentioned that the convergence equation estimation results cannot yet demonstrate that fintech significantly influences per capita GDP growth.



A Working Paper by Huang (2020) states that FinTech is rapidly transforming the financial industry, with significant implications for macroeconomic stability. Fintech could provide some stabilizing forces, but it might also substantially threaten macroeconomic stability. In line with the research conducted in China, fintech and its sub-measure of third-party payment, credit, and insurance are significant factors of China's economic growth (Song & Appiah-Otoo, 2022).

In contrast to research conducted in Africa and China, Khai Nguyen & Cuong Dang (2022) also researched the impact of fintech development on financial stability in Vietnam. The findings of this study indicate that fintech development had a negative impact on financial stability. However, Fintech development's adverse effects on financial stability become more noticeable when the degree of financial stability is low. Research conducted in Indonesia by Dularif (2010) also states that financial development in Indonesia does not significantly impact economic growth. The study mentions that the reason is due to the failure of financial development to promote growth, such as the absence of fundamental factors in the financial system, the lack of credibility of the monetary regulator, and deficiencies in financial regulations and supervision.

H1: The number of fintech firms significantly affects the national GDP of Indonesia

H2: Fintech loan disbursement significantly affects the national GDP of Indonesia

C. Total Loan Disbursement as a Key Indicator of Fintech Development

Total loan disbursement is one of the most used indicators to measure fintech development. This variable records the financial activity organized by fintech platforms, especially peer-to-peer (P2P) lending, which has become a significant component of fintech settings in emerging markets such as Indonesia. Total loan disbursement represents the amount to which fintech companies contribute to credit distribution, particularly among underbanked populations, small and medium enterprises (SMEs), and individuals who may not have access to conventional banking services. From this point of view, loan disbursement not only represents a proxy for fintech activity but also has a possible macroeconomic influence, especially in enhancing financial inclusion and encouraging consumption or investment on a more general level.

Loan disbursement in fintech peer-to-peer (P2P) lending impacts the financial sector and overall economy by increasing access to credit, which leads to a decline in traditional loan volumes as borrowers increasingly turn to these platforms for financing. This change can impact interest rates and lending practices across the financial sector (Croux et al., 2020). In Indonesia, total loan disbursement is relevant due to the rapid growth of fintech lending firms, as the Otoritas Jasa Keuangan (OJK) reported. It shows how extensively fintech has reached the national financial system and contributed to economic activities. Thus, it is an appropriate variable for understanding how fintech impacts broader macroeconomic variables, such as the financial sectors and overall national GDP.

H3: The number of fintech firms significantly affects Indonesia's financial sector's GDP.

H4: Fintech loan disbursement significantly affects Indonesia's financial sector's GDP.

D. The Role of the Financial Sector on the Economy

The financial services sector comprises a range of institutions that offer financial services to individuals, corporations, and governments, including banks, credit unions, insurance companies, investment firms, and other financial intermediaries (Murray et al., 2017). The industry has significant economic implications, as it is indispensable to the global economy's functioning and is associated with capital allocation, credit and lending, risk management, intermediation and liquidity, job creation, economic stability, and technological innovation.

In developing countries, the financial sector is crucial for the overall economy; thus, understanding their relationship is necessary for policymaking and supporting stable economic development (Green & Murinde, 2003). This sector affects the allocation of funds, facilitates investment financing, impacts interest rates and asset prices, and plays a pivotal role in connecting formal (e.g., Bank) and informal financial systems (e.g., fintech).

H5: The financial sector's GDP significantly affects the national GDP of Indonesia.

Fintech was established to integrate technology into the financial sector (Purnomo & Khalda, 2019). An overview of FinTech innovations in the financial sector, such as Bitcoin and Blockchain technology, as well as an overview of innovations and novelties like Neobanks or digital banks, indicates that the FinTech field lacks specific studies that provide an overview of the significance of Neobanks to the financial industry. Neo banks compete with traditional banks and are the basis for added value and sustainable

competitive advantage; however, there is a noticeable absence of research in this area, making it a recommendation and an objective to conduct additional research in the field (Martinčević et al., 2020).

H6: The number of fintech firms positively contributes to Indonesia's macroeconomic growth when mediated by the financial sector's GDP.

H7: Fintech loan disbursement positively contributes to Indonesia's macroeconomic growth when mediated by the financial sector's GDP.

METHOD, DATA, AND ANALYSIS

This study uses quarterly secondary data from 2018 to 2024 to examine the relationship between the development of financial technology (fintech) and Indonesia's economic growth, mediated by the financial sector's GDP. Fintech development is measured by the total number of registered fintech firms and total loan disbursement, with data sourced from Otoritas Jasa Keuangan (OJK). Meanwhile, data on the financial sector and Indonesia's GDP were obtained from Badan Pusat Statistik (BPS).

This study conducted a descriptive analysis to see the minimum and maximum values, average score, and standard deviation. The data were analyzed using a mediation model with the PROCESS Macro version 4.2 for SPSS developed by Andrew F. Hayes. Model 4 was applied to examine the mediating effect using a bootstrapping approach with 5,000 samples and a 95% confidence level. Hayes SPSS Process Macro is a statistical technique that is used to analyze the influence of a third or fourth variable on the relationship between independent and dependent variables (Bader & Jones, 2021). Additionally, classical assumption tests, including normality, multicollinearity, autocorrelation, and heteroscedasticity, were also performed to guarantee the robustness of the regression model.

RESULT AND DISCUSSION

A. Descriptive Statistics

Descriptive statistics summarize data in an organized format by describing the relationship between variables in a sample or population (Kaur et al., 2018). The descriptive statistics test results are presented in the following table:

Table 1. Descriptive Analysis

<i>Variable</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Number of Fintech firms	28	50.00	164.00	110.5714	28.89756
Total loan disbursement	28	1912.89	81694.07	38467.1411	25481.43326
The financial sector's GDP	28	101777.60	134846.20	117180.5786	9085.59073
Overall GDP	28	2498697.5	3296741.70	2862460.8536	223290.74662

Source: Data processing results, 2025

Based on Table 1, the number of valid observations used in this study is 28. The detailed descriptions for each variable are as follows:

- 1) The variable X1 (Total Fintech Firms) has a mean value of 110.57 with a standard deviation 28.90. The minimum observed value is 50.00, while the maximum is 164.00, indicating a moderate variation in the number of fintech companies across quarters.
- 2) The variable X2 (Loan Disbursement in Billion IDR) shows a mean of 38,467.14 and a standard deviation 25,481.43. The lowest loan disbursement is 1,912.89, and the highest is 81,694.07, reflecting a wide range of fintech lending activity during the period.
- 3) The mediating variable M (Financial Sector GDP in billions IDR) has a mean value of 117,180.58 with a standard deviation of 9,085.59. The minimum value recorded is 101,777.60, and the maximum is 134,846.20, showing a relatively stable financial sector contribution.
- 4) The dependent variable Y2 (Indonesia's Total GDP in Billion IDR) has a mean of 2,862,460.85 and a standard deviation of 223,290.75. The minimum value is 2,498,697.50, while the maximum reaches 3,296,741.70, indicating consistent growth in Indonesia's overall economic output throughout the observed quarters.



B. PROCESS Macro Analysis

This study uses regression analysis with Hayes’s PROCESS macro to estimate and analyze direct and indirect effects and test hypotheses about the mediation mechanism (Hayes, 2022). The process macro analysis results are shown below:

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OUTCOME VARIABLE:
GDP

Model Summary
      R      R-sq      MSE      F      df1      df2      p
,9515    ,9054 5307025598    76,5537    3,0000    24,0000    ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant 1417724,22 475389,441    2,9822    ,0065 436530,651 2398917,79
Fintech  -1061,4110    586,2967    -1,8104    ,0828 -2271,5147 148,6927
Finsect   11,9778      4,8696      2,4597    ,0215    1,9269    22,0286
Loan      4,1214      1,7425      2,3652    ,0264    ,5249     7,7178
    
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Figure 3. PROCESS Model Output for national GDP

Based on the regression test results shown in Figure 3, the R-value is 0.9515, and the R-squared is 0.9054. This indicates that the independent variables collectively explain 90.54% of Indonesia’s overall GDP variation. The p-value of 0.000 < 0.05 means that Indonesia’s GDP is significantly influenced by fintech, loan disbursement, and the financial sector simultaneously.

1) The Effect of Fintech Firms on Total GDP

The regression coefficient for the fintech variable is -1,061.4110, and the t-table value is approximately ± 2.0639 (for df = 24 at the 5% significance level). It is found that the absolute t-value is less than the t-table (-1.8104 < 2.0639), and the p-value is > 0.05. Therefore, the effect of the number of fintech companies on GDP is not statistically significant. This result leads to the rejection of the first hypothesis (H1).

2) The Effect of Loan Disbursement on Total GDP

The regression output shows a coefficient of 4.1214 for loan disbursement, which means that every one-unit increase in loan disbursement is associated with a 4.1214 unit increase in total GDP. Moreover, as the t-value 2.3652 > t-table of 2.0639 and the p-value is below 0.05, it can be concluded that loan disbursement has a statistically significant and positive effect on GDP. Therefore, the second hypothesis (H2) is accepted.

3) The Effect of Financial Sector GDP on Total GDP

The coefficient for the financial sector GDP variable is 11.9778. Therefore, an increase of one unit in the financial sector GDP leads to an increase of 11.9778 units in total GDP. Since the t- t-value 2.4597 > t-table 2.0639 and the p-value < 0.05 indicates a statistically significant positive effect of financial sector GDP on Indonesia’s total GDP. Thus, the fifth hypothesis (H5) is accepted.

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OUTCOME VARIABLE:
Finsect

Model Summary
      R      R-sq      MSE      F      df1      df2      p
,9485    ,8996 8951919,51    111,9870    2,0000    25,0000    ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant 96786,6365    2550,2301    37,9521    ,0000 91534,1531 102039,120
Fintech   66,4292      20,0827      3,3078    ,0028    25,0666    107,7918
Loan      ,3392      ,0228      14,8943    ,0000    ,2923     ,3861
    
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Figure 4. PROCESS Model Output for the financial sector’s GDP



Based on the regression results shown in Figure 4, the R-value is 0.9485, and the R-squared (R^2) value is 0.8996. This indicates that 89.96% of the variance in Indonesia’s financial sector GDP can be explained by the number of fintech companies and the total amount of loan disbursement. The F-statistic is 111.9870 with a p-value of $0.000 < 0.05$, demonstrating that the number of fintech companies and total loan disbursement significantly and simultaneously influence the financial sector’s GDP.

4) The Effect of Fintech Firms on the Financial Sector’s GDP

The regression coefficient for the number of total fintech variables is 66.4292. Therefore, for every one-unit increase in the number of fintech companies, there is an increase of 66.4292 units in the financial sector’s GDP. Additionally, given that the t-value of $3.3078 > t$ -table value (approximately 2.060 for $df = 25$) and the p-value < 0.05 , it can be concluded that the number of fintech companies has a statistically significant and positive effect on the financial sector’s GDP. Thus, H3 is accepted.

5) The Effect of Loan Disbursement on the Financial Sector GDP

The coefficient for loan disbursement is 0.3392, which means that an increase of one unit in loan disbursement will increase the financial sector GDP by approximately 0.3392 units. Moreover, the t-value $> t$ -table and the p-value < 0.05 indicate a statistically significant positive relationship between loan disbursement and the financial sector GDP. Therefore, H4 is accepted.

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
Finsect	795,6736	349,1232	313,7823	1585,2014

Figure 5. The Mediating Effect of the Financial Sector on the Relationship between the Number of Fintech Firms and National GDP

Based on the results of the analysis using the PROCESS Macro in Figure 5, it was found that through the mediating variable, which is the GDP of the financial sector (M), a significant indirect effect was obtained through the effect value of 795.67, with a 95% confidence interval ranging from $BootLLCI = 313.78$ to $BootULCI = 1585.20$. The indirect effect is considered statistically significant since this confidence interval does not include zero. Therefore, it can be concluded that the growth in fintech companies contributes indirectly to national economic growth by strengthening the financial sector. Thus, H6 is accepted. This finding supports the notion that in developing countries like Indonesia, the effect of fintech is more apparent through its influence on the financial system, which in turn drives broader economic growth.

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
Finsect	4,0631	1,6304	1,6332	8,0938

Figure 6. The Mediating Effect of the Financial Sector on the Relationship between Loan Disbursement and National GDP

According to Figure 6, the indirect effects of loan disbursement on Indonesia’s overall GDP (Y), with the financial sector GDP (Finsect) as a mediating variable. The impact of loan disbursement on GDP through the financial sector GDP is 4.0631. This was tested using the bootstrapping method with a standard error of 1.6304 and a 95% confidence interval ranging from 1.6332 ($BootLLCI$) to 8.0938 ($BootULCI$). The indirect effect is considered statistically significant since this confidence interval does not include zero. The financial industry’s GDP significantly mediates the relationship between loan disbursement and Indonesia’s GDP. Thus, H7 is accepted. This result supports the mediation hypothesis, indicating that loan disbursement contributes to economic growth directly and indirectly by enhancing the financial sector’s performance.

C. Discussion

1) The Impact of Fintech Development on Economic Growth.

Based on the statistical analysis using the PROCESS Macro in SPSS, Indonesia’s number of fintech companies does not have a statistically significant direct effect on economic growth (P-value of $0.0828 > 0.05$). The absence of statistical significance



implies that the number of registered FinTech companies alone might not directly support Indonesia's economic development. However, the total loan disbursement variable, representing the monetary distribution power of fintech companies, shows both a significant direct effect ($p = 0.0264$) and a significant indirect effect through the financial sector (BootLLCI = 1.6332; BootULCI = 8.0938). This means that while the number of firms may not drive economic growth directly, the amount of fintech activity does contribute to the national economy, both directly and indirectly, through the financial sector. The use of digital transactions in different countries influences the results above.

According to the data, global digital transactions increased by 118% between 2017 and 2021, from \$3.09 trillion in 2017 to \$6.75 trillion in 2021. The market for Digital Payments is anticipated to reach \$9.46 trillion in total transaction value by 2023 (Statista, 2023). Based on data from Bank Indonesia (2023), the development of digital transactions in Indonesia has increased by 1,556% between 2017 and 2020. In 2021, electronic money transactions surpassed 786.35 trillion IDR. This value increased by 281.39 trillion IDR (55.73%) compared to the previous year's total of 504.96 trillion IDR (OJK, 2025). Harahap et al., (2017) mentioned that economic growth and digital transactions correlate. Considering the relatively small contribution of the financial sector to GDP compared to other sectors, fintech's total influence on GDP remains modest in Indonesia, even with this impressive growth.

The findings are in line with previous research and economic observations. The study by Huang (2020) indicates that FinTech is rapidly transforming the financial sector, resulting in significant implications for macroeconomic stability in China, while Khai Nguyen & Cuong Dang (2022) demonstrate that the development of fintech has a negative impact on financial stability in Vietnam. According to Statista (2020), Vietnam's position in 2020 in terms of the use of digital transactions is below Indonesia, which was in fourth place at the time. Therefore, in either Indonesia or Vietnam, fintech development had no significant economic growth compared to China.

Based on the data from the Official Statistical News No 15/02/Th.XXV1, February 6, 2023, the industry that grew significantly was Transportation and Warehousing by 16,99%, followed by the Provision of Accommodation and Food and Drink by 13.81%, and other Services by 11.14%. The Financial Sector is one of the industries with very low growth, only 3.76% (BPS, 2023). In summary, from this data, we can conclude that the number of fintech companies in Indonesia does not have a very significant effect on Indonesia's GDP, following the findings of this study.

The influence of fintech companies or the financial sector in Indonesia could positively impact if banking sector research is conducted. Due to the encouragement of fintech, banks could be digitized because fintech has captured a substantial portion of the financial industry's market share (Purnomo & Khaldia, 2019). As mentioned by the article from OJK (2022), at least two of the most significant prospective positive outcomes may result from the digital transformation undertaken by banks. First, it increases access to banking services. Second, it enhances the competitiveness of the Indonesian financial sector.

Digital banking will increase the public's ease of access to banking services and the banking industry's efficiency, promoting economic growth. In line with the research findings of Murinde et al., (2022), banking is an essential component of every nation's economy. Moreover, it is necessary to strike the appropriate balance in regulation to make room for innovation and competition in the banking industry.

2) The Mediating Role of the Financial Sector in the Relationship Between Fintech Development and Economic Growth

The findings of this study reveal that the impact of fintech development on Indonesia's economic growth through the financial sector is statistically significant. Even though the number of fintech companies (X1) did not have a substantial effect on GDP (Y), it did show a significant indirect effect through the financial sector (M), as indicated by the confidence interval that does not include zero (BootLLCI = 0.1518; BootULCI = 1.1763). Similarly, total fintech loan disbursement (X2) also shows a significant indirect effect through the financial sector (BootLLCI = 1.6332; BootULCI = 8.0938) on Economic Growth.

Murinde et al., (2022) mentioned that digitization and innovation in financial services enhance access, efficiency, and competitiveness in the financial system, all contributing to overall economic performance. Integrating advanced digital services such as e-wallets, peer-to-peer lending, and mobile banking helps companies reduce transaction costs, improve transparency, and increase capital mobility. The study from Sihombing (2021) also reveals that the increasing number of Fintech companies indirectly affects the Indonesian economy's growth through an increase in investment. Therefore, if we assess the impact directly, the outcomes will be different than if we use other variables as moderating or intervening variables.



Even though fintech companies may not influence the economy directly through their existence or registration numbers, the integration and contribution of the financial sector play a crucial role. As intermediaries, fintech firms expand financial access, particularly through digital lending and payment platforms, which improve the circulation of capital in the economy. However, this impact becomes more obvious when channelled through established financial systems, highlighting how crucial a robust financial sector is for transmission. According to Inggred (2006), monetary policy is transmitted through the financial sector from the macroeconomic perspective. Expanding investment flows, increasing financial intermediation, and improving credit availability will help a healthy financial industry maximize the benefits of fintech innovation. However, in Indonesia, the lack of consistency in implementing and achieving goals and the involvement of several ministers and governors of the Central Bank in Several banking scandals considerably eroded the public's faith in the monetary policy (Dularif, 2010). Consequently, an economic policy such as an increase in the money supply has no positive effect on the economy.

Policies encouraging financial institutions to retain earnings longer during expansions reduce the frequency of financial crises, but many increase endogenous risk and delay the recovery (Brunnermeier & Sannikov, 2014). As mentioned in Bank Indonesia Regulation Number 19/12/PBI/2017, regarding the Implementation of Financial Technology, the development of financial technology is proven to bring benefits to consumers, businesses, and the national economy, but on the other hand, it has potential risk which, if not adequately mitigated, could disrupt the financial system. Greater interconnectedness implies that policy spillovers will be more powerful, which has implications for macroeconomic stability and stabilization policies (Genberg, 2020). Regulators need to promote transparency in terms of guidance and regulatory explanation on which alternative data can be utilized legally without breaking the fair lending regulation (Croux et al., 2020). In Indonesia, regulations concerning financial technology are still being developed, especially those that manage illegal fintech lending, which has not been optimized. As a result, there are still numerous cases due to a lack of public knowledge and inadequate handling by the government.

CONCLUSION AND SUGGESTION

This study concludes that the development of financial technology (fintech), as evidenced by the number of fintech firms and the total loan disbursement, significantly influences Indonesia's macroeconomic growth through the mediating role of the financial sector. The empirical findings indicate that fintech firms do not directly impact national GDP. However, their influence becomes significant through the mediating role of the financial sector's GDP, indicating an indirect effect on national economic growth. Meanwhile, fintech loan disbursement directly and indirectly impacts economic development, emphasizing its importance in financial inclusion and credit distribution.

Theoretically, this study contributes to the existing discussion on integrating digital financial services into macroeconomic frameworks by adding a mediation perspective through the financial sector's GDP. Empirically, the study presents evidence-based insights for policymakers to further support fintech innovation as a technology advancement and macroeconomic driver. The economic value of this study is that it highlights the potential for fintech development to improve sectoral and national economic performance as long as adequate financial regulations and infrastructure are in place.

However, this study is not without limitations. First, secondary data may not fully identify informal fintech activities or behavioral shifts in consumer preferences that are not recorded in official reports. Second, the limited time may be insufficient to detect long-term structural changes. Moreover, even if the mediation study is statistically accurate, the lack of longitudinal control restricts the establishment of causal inference. These constraints could affect the generalizability and external validity of the findings, which the following studies should address.

It is recommended that future studies include qualitative insights, such as policy responses and regulatory changes, and extend the period to monitor longer-term patterns. Future research may also add moderating variables such as digital infrastructure or institutional quality to better understand the relationship between fintech and economic growth. Furthermore, cross-country comparisons or panel data techniques might provide valuable insights into the global relevance of these findings.

ACKNOWLEDGMENT

This paper originated as part of the Economic Business Landscape Analysis course at the School of Business and Management, Institut Teknologi Bandung. The author sincerely thanks Ir. Dzikri Firmansyah Hakam, ST., PgDip., MSc., PhD, for his insightful guidance during the early stages of the research. Further data updates and refinements were conducted independently by the author in 2025.



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Cite this Article: Priatna, H.N. (2025). Analyzing the Impact of Fintech Development on Indonesia's Economic Growth: The Mediating Role of the Financial Sector's GDP. International Journal of Current Science Research and Review, 8(7), pp. 3819-3828. DOI: <https://doi.org/10.47191/ijcsrr/V8-i7-72>