

Can Financial Technology Drive Economic Growth in Indonesia?

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Abstract: *This study aims to analyze the contribution of fintech to economic growth in Indonesia using a quantitative approach. Fintech, which encompasses digital payment platforms and peer-to-peer lending (P2P) services, has facilitated convenient access to financial resources and enhanced transactional efficiency. However, negative impacts have also been identified, particularly the risk of default and high interest rates, which may impede economic growth. The data employed in this study encompasses the distribution of fintech financing registered with the Financial Services Authority (OJK) from 2018 to 2023, in addition to Indonesia's economic growth data from the Central Statistics Agency (BPS). The analysis findings indicate that while fintech has significant potential in expanding financial inclusion, its adverse effects, such as elevated levels of bad debt and misallocated financing, can impede economic growth.*

INTRODUCTION

The advancement of technology has been one of the most significant developments of the current century. Its rapid evolution is an unavoidable consequence. (Sitepu et al., 2024). In essence, technology represents one of the instruments that can enhance the quality of human life. The Internet is one of the most rapidly developing technologies. The 2022 annual routine survey data of the Indonesian Internet Service Providers Association (APJII) indicates that the internet penetration rate in Indonesia is 77.02%. This equates to 210,026,769 Indonesians out of a total population of 272,682,600 connected to the internet. The most frequently used applications include social media (89.15%), messaging platforms (73.86%), e-commerce (21.26%), games (14.23%), news sites (11.98%), and online transportation (9%). 27%, music streaming 8.49%, email 7.23%, video streaming 4.79%, online meetings 4.05%, course platforms 2.81%, and e-wallets 1.39%.

One of the financial services products that represents a significant advancement in technological development is financial technology (FinTech). Syed et al. (2021) posited that FinTech is one of the products that has made a significant contribution to the current era of

digitalization. The conjunction of financial services and digital technology, in conjunction with advances in big data analysis, artificial intelligence, and capable information technology, provides numerous benefits. FinTech directly addresses the majority of the challenges inherent to traditional financial services. FinTech innovations are ubiquitous in our daily lives, including charity fundraising services, digital payments, P2P lending, digital loans, and investment management (Luo et al., 2022).

As evidenced by a report published by KPMG (2018) FinTech innovation has seen a significant increase in investment, reaching a total of \$94.7 billion. This represents a 94% growth in the last 13 years. In the case of developing countries such as Indonesia, the utilization of FinTech indicates a state of static growth. The proliferation of FinTech companies in Indonesia corroborates this. As of October 2024, the OJK noted that approximately 97 FinTech companies were registered and had business licenses. Marginingsih (2019) His article posits that the prevailing FinTech trends in Indonesia are related to payment and lending activities. The proliferation of Fintech startups has compelled banks to enhance the quality and efficiency of their services. (Safiullah & Paramati, 2022).

The rise of FinTech is inextricably linked to the proliferation of online shopping, real-time transactions, and user-friendly interfaces. (Vučinić, 2020). Furthermore, the positive aspects of FinTech can potentially mitigate financial instability by implementing decentralization, diversification, transparency, efficiency, and convenience. (Fung et al., 2020). The regulatory aspect of FinTech presents a challenge for the government, which aims to instill confidence among investors and users. Regulations pertaining to FinTech have been incorporated into the Financial Services Authority (OJK) Regulation No. 77/POJK.01/2016 on Information Technology-Based Money Lending and Borrowing Services and Regulation No. 31/POJK.05/2016 on Pawnshop Business.

Zulfa Qur'anisa et al. (2024) Elucidated that the advancement of FinTech, which streamlines the payment system, exerts an influence on Indonesia's economic growth. The facilitation of easy access to lending by P2P Landing increases the opportunity for small and medium-sized enterprises (SMEs) to obtain loans at reasonable interest rates. (Bu et al., 2022). The role of FinTech as a new business model with outstanding performance is to absorb labor and contribute to state income (Shin & Choi, 2019). However, concerns have been raised about the potential negative impact of FinTech on economic growth, including the issue of bad credit. The OJK has highlighted that as of August 2024, there were Rp1,705.50 billion in outstanding online loans that indicated bad debts. This has the potential to disrupt the growth of businesses, individuals, and industries and may, therefore, impact national economic growth in the future.

In examining the issues raised in this study, Robert Solow, in Putri et al. (2024) explains the classical economic growth theory, which emphasizes capital accumulation, labor, and technological progress as the primary drivers of productivity and long-term economic expansion. In this context, FinTech serves as a catalyst, facilitating improvements in market efficiency, accelerating transactions, and expanding financial inclusion, which collectively support accelerated economic growth. Additionally, Romer (1994) emphasized in his paper that endogenous economic factors also highlight technological innovation and knowledge development as crucial internal factors in driving growth. The combination of the classical and endogenous growth theories provides an explanation of how FinTech accelerates economic development through increased efficiency and continuous innovation. However, the resulting systemic risks and information asymmetries necessitate the implementation of prudent regulatory measures to ensure financial stability, thereby enabling the optimal exploitation of FinTech to propel economic growth (Raharjo, 2019).

In light of the pivotal role that FinTech plays in economic growth, it is imperative to empirically substantiate the relationship between the two. This study aims to examine the influence of FinTech financing distribution on Indonesia's economic growth. It is anticipated that the findings of this study will inform and enhance the provision of FinTech services, thereby facilitating their contribution to national economic growth.

METHOD

The impact of fintech variables as a financing channel on economic growth in Indonesia has been the subject of several studies. One of the principal motivations for individuals to seek loans is to meet their daily necessities or to facilitate other activities. However, during the global pandemic caused by the COVID-19 virus, there has been a notable increase in the number of people dependent on loans due to the significant number of layoffs and restrictions on economic activity. (Wahyono et al., 2022). Conversely, the obligation to repay debts and their interest can impede economic growth, as a considerable proportion of individuals' income is allocated to loan repayments. This is evidenced by the elevated default rate in fintech, which reached 2.28% during the pandemic. (Aulianisa, 2020).

Khai Nguyen and Cuong Dang (2022) Has explained that the potential negative impact of FinTech on economic growth is a significant concern, particularly in emerging markets where financial stability is already a challenge. One reason is the increased systemic risk caused by FinTech's reliance on third-party companies to deliver financial services. This inefficiency makes financial institutions more prone to failure. Furthermore, information asymmetry issues in technology-based financing platforms, such as peer-to-peer lending, can exacerbate the situation as lenders often do not have sufficient data to assess borrowers' credit risk. This increases the risk of default and lowers confidence in the financial system as a whole.

Furthermore, Saraswati (2023) elucidated that the implementation of Fintech has not been optimal, particularly in terms of enhancing the productivity of the production sector. The limited utilization of Fintech by the public and businesses constrains its capacity to augment economic output, consequently exerting an influence on the company. So, the hypothesis put forth in this study is that the distribution of Fintech financing has a negative and significant impact on economic growth in Indonesia.

In accordance with the research objectives, this study employed a quantitative methodology. The concept of causality is employed to elucidate the impact of the independent variable, namely financial technology distribution, on the dependent variable, namely Indonesia's economic growth. The data employed in this study is of a secondary nature. The secondary data employed in this study is in the form of financial technology distribution data registered with the Financial Services Authority (OJK) from 2018 to 2023. This data can be accessed at www.ojk.go.id. Subsequently, Indonesia's economic growth data was obtained from the Central Statistics Agency (BPS) website. The research population comprises all financial technology distribution in the period 2018-2023, with the following sample criteria: 1) Conventional and Sharia-compliant financial technology distribution and 2) Financial technology registered with the Financial Services Authority for the period 2018-2023 (during 6 years). The data was processed using SPSS version 26 statistical tools with linear regression testing in the form of classical assumption tests, determination r-tests, linear regression, and partial t-tests (Ghozali, 2018). The econometric equation is:

$$Y = a + bX + \varepsilon \dots\dots\dots(1)$$

Description:

- Y = Indonesian economic growth
- a = Constant function
- b = Coefficient of the independent variable
- X = FinTech Disbursement
- ε = Error Standard

RESULT AND DISCUSSION

Classical Assumption Test

Table 1. Results of Normality Test – Kolmogorov Smirnov

		Unstandardized Residual
Most Extreme Differences	Absolute	0.212
	Positive	0.212
	Negative	-0.158
Test Statistic		0.212
Asymp. Sig. (2-tailed)		0.200

Source: SPSS Output, 2024

Table 1 illustrates that the asymptotic significance (two-tailed) value derived from the Kolmogorov-Smirnov test is 0.200. This indicates that it can be concluded that the research data follows a normal distribution.

Table 2. Results of Heteroskedasticity Test – Glejser Test

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	0.652	0.518	1.259	0.276
1 X FinTech Disbursement	8.750E-6	0.000	1.228	0.287

Source: SPSS Output, 2024

The results of the heteroscedasticity test, as presented in Table 2, indicate a significant value of 0.287 or greater than 0.05, thereby demonstrating the absence of heteroscedasticity in the data set under examination.

Table 3. Results of Autocorrelation Test – Run Test

Unstandardized Residual	
Test Value ^a	-0.12423
Z	0.000
Asymp. Sig. (2-tailed)	1.000

Source: SPSS Output, 2024

As shown in Table 3, the results of the autocorrelation test utilizing the Runs Test indicate a significant value of 1.00 or greater than 0.05. It can be concluded that the results of the study do not indicate the presence of autocorrelation.

Hypothesis Test

Table 4. Results of Determination Coefficient (R^2) Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.845 ^a	0.714	0.642	1.72535

Source: SPSS Output, 2024

Table 4 clearly shows that the Adjusted R Square value is 0.642, which means that the Fintech Distribution variable can influence the Economic Growth variable by 64.2%. Other variables outside the study explain the remaining 35.8%.

Table 5. Results of Linear Regression and t Partial Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.610	.930		6.035	.004
	X_FinTech Disbursement	-4.040	.000	-.845	-3.157	.034

Source: SPSS Output, 2024

Based on Table 5, a linear regression formula can be formulated as follows:

$$Y = 5.610 - 4.040X + \varepsilon \dots\dots\dots(2)$$

The interpretation of the table includes the following: the financing disbursement has a Sig. A value of 0.034, smaller than 0.05, has a negative coefficient; this means the hypothesis is accepted.

The results of the linear regression estimation indicate that a constant value of 5.610 is associated with a projected increase in economic growth of 5.610 units in the event of a zero or constant value for the independent variable, Fintech Distribution. Conversely, the negative coefficient of the Fintech Distribution variable (-4.040) indicates an inverse relationship between Fintech Distribution and Economic Growth. In other words, an increase in Economic Growth has the potential to decrease Fintech Distribution, while a decrease in Economic Growth tends to increase Fintech Distribution.

Discussion

This phenomenon reflects not only inefficiency in the allocation of capital but also the impact of high interest rates frequently applied by FinTech platforms. High interest rates result in increased debt servicing costs, reducing borrowers' ability to meet their obligations and increasing non-performing loans (NPLs), which reached 3% during the pandemic (OJK, 2020).

The current interest rate environment, particularly on peer-to-peer lending platforms, significantly contributes to defaults. In 2020, interest rates were at 3.5%, rising to 6.25% by 2024. From an economic standpoint, high interest rates serve to balance risk and return. However, in practice, high interest rates on FinTech often exceed the borrower's ability to repay. This exacerbates the problem of information asymmetry, where lenders lack sufficient data to evaluate

the credit risk of borrowers. Consequently, the risk of default increases, negatively impacting both borrowers and the broader FinTech ecosystem.

Furthermore, high interest rates influence the pattern of financing utilization. The majority of funds borrowed through FinTech are not directed toward productive investment but rather toward consumptive needs or the fulfillment of other obligations. Consequently, these funds fail to generate the added value required to drive economic growth. In Solow's classical growth theory, an inefficient allocation of capital will limit a country's ability to increase economic output. A reliance on high-interest loans forces households to allocate a greater proportion of their income to the repayment of interest and principal, reducing the funds available for consumption or productive investment.

From a social perspective, high interest rates contribute to the formation of a debt cycle that is challenging to overcome. When borrowers are unable to repay their debts due to high interest rates, they are often forced to take out new loans to cover their previous debts. This cycle has adverse effects on households and suppresses people's purchasing power. On a broader scale, high default rates erode trust in FinTech platforms and impede the growth of the digital finance sector. Consequently, the stability of the national economy is also threatened, as high NPLs can precipitate a liquidity crisis for FinTech service providers.

This is consistent with the findings of research conducted by Abdillah (2024), which indicate that the digital economy, encompassing e-commerce, fintech, and information technology, positively impacts productivity, job creation, and expansion of global market access. However, there are also potential negative impacts that can affect economic growth. One such impact is the digital divide, which prevents part of the population from optimally utilizing technology. Another is an increase in cybercrime and competitive imbalances in the digital sector. If these negative aspects are not effectively addressed, they could widen social and economic disparities, hinder inclusive digital transformation, and reduce public confidence in the digital economic system.

Subsequently, a Vector Error Correction model (VECM) is employed by Saraswati & Tisnawati (2021) To assess the impact of fintech, including P2P lending and electronic payment systems, on the stability of the Indonesian financial system. The findings indicate that peer-to-peer (P2P) lending within the context of fintech tends to exert a detrimental influence over the long term, leading to an increased risk of financial instability. This is due to the possibility of high default rates that could potentially weaken the banking structure and reduce investor confidence. Such instability may impede economic growth, as an unstable financial sector will result in inefficient capital allocation and reduced investment capacity. Conversely, payments fintech has positively supported economic efficiency and financial stability. However, in the absence of adequate regulation, the risks associated with fintech P2P lending remain a significant threat to the sustainability of economic growth.

It may be beneficial to consider implementing stricter regulations to protect consumers while ensuring the sustainability of the digital finance ecosystem, particularly given the high interest rates applied by FinTechs. It would be beneficial to consider implementing regulations that limit maximum interest rates to reduce the burden on borrowers. Additionally, it might be advantageous to encourage transparency in the lending process. Furthermore, policies could be devised to facilitate the channeling of financing to productive sectors at competitive interest rates. This approach is in line with the theoretical view that stability and efficiency in the financial system are prerequisites for sustainable economic growth.

In order to offset the adverse effects of high interest rates, several strategic measures could be implemented. It would be beneficial for the government to consider ways of educating the

public about the potential risks of using FinTech financing and the importance of allocating loan funds for productive activities. Secondly, it would benefit regulators and FinTech service providers to work together to provide financing at reasonable interest rates and strengthen risk assessment mechanisms. Thirdly, it may be beneficial to consider policy incentives such as interest subsidies for loans used for productive businesses, which could encourage more efficient capital allocation. It is believed that this approach will enable FinTech to make a further contribution to promoting financial inclusion, accelerating economic growth, and reducing social inequality while avoiding the creation of excessive systemic risk.

CONCLUSION

This research suggests that fintech may have a dualistic influence on the Indonesian economy. On the one hand, it can be seen that fintech innovations have the potential to promote financial inclusion and transaction efficiency, which could contribute positively to economic growth. On the other hand, it is worth noting that fintech loans, especially P2P lending with high interest rates, may potentially increase the risk of default and create financial instability. This could potentially lead to inefficiencies in capital allocation and a reduction in people's purchasing power. Therefore, it may be beneficial to consider implementing strict supervision and policies that encourage the use of funds for productive activities. Policy implications could include the need for regulations that limit fintech interest rates, transparency of the lending process, and public education to utilize fintech wisely.

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