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Research Article

The Influence of Financial Technology Growth on Monetary Policy in Developing Economies

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Abstract

This study aims to evaluate the influence of financial technology (fintech) development on the effectiveness of monetary policy in developing countries and identify the challenges and opportunities posed to central banks. The research employs a critical literature review of empirical studies and reports from various countries, focusing on the impact of fintech on monetary policy transmission, financial system stability, and financial inclusion. Studies indicate that fintech can influence the demand and supply of money, create new monetary policy transmission channels, and enhance efficiency and financial inclusion. Key findings reveal that fintech can strengthen monetary policy transmission and promote financial inclusion, but also heighten risks to financial stability, such as credit, liquidity, and operational risks. This article emphasizes the need for an adaptive regulatory and supervisory approach, along with innovation in monetary policy, such as the development of a Central Bank Digital Currency (CBDC), to respond to fintech developments and maximize its benefits for the economy. CBDC development needs to consider various aspects, including design, implications for stability and monetary policy transmission, and an appropriate regulatory and supervisory framework.

Keywords: Financial Technology, Monetary Policy, Developing Countries, Financial System Stability, Financial Inclusion, CBDC



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INTRODUCTION

The integration of technology in the financial sector, known as financial technology (fintech), has become a global phenomenon with significant transformative impacts, especially in developing countries. Driven by digital penetration factors such as increased internet access and smartphone usage, fintech

offers a variety of innovative financial services that include digital payments, online lending, technology-based investments, and insurance. This exponential growth of fintech poses crucial implications for central banks in developing countries, which have a mandate to maintain monetary and financial stability.

Fintech has the potential to influence the effectiveness of monetary policy through various channels. First, fintech can change the traditional monetary policy transmission mechanism. Digital payment platforms, for example, can affect the velocity of money circulation and the demand for money, which has implications for the effectiveness of monetary policy instruments such as interest rates. Second, fintech can affect financial stability by creating new sources of risk, including credit and liquidity risks on P2P lending platforms and operational risks in digital payment systems. Third, fintech has the potential to enhance financial inclusion by expanding access to financial services for communities that were previously excluded from the traditional banking system.

This article aims to review academic literature on the influence of fintech growth on monetary policy in developing countries. The main focus is on how fintech affects monetary policy transmission, financial system stability, and financial inclusion. In addition, this article will also analyze the monetary policy approaches adopted by central banks in developing countries in response to fintech developments. This literature review is expected to provide a comprehensive understanding of the implications of fintech for monetary policy and provide recommendations for central banks in formulating effective strategies to manage fintech developments, maximize its benefits, and mitigate its risks.

LITERATURE REVIEW

A. Definition and Types of Fintech

Fintech refers to technological innovations in the financial sector that result in new products, services, and business models (Arner et al., 2020). This definition covers various types of fintech, ranging from digital payments and online lending to technology-based wealth management and insurance. Several types of fintech that are relevant to monetary policy include:

1. **Digital Payments:** This type of fintech includes various services that facilitate non-cash transactions, such as digital wallets, electronic money, and online payment platforms. Examples in Indonesia are GoPay, OVO, and Dana. These services allow people to make transactions easily, quickly, and safely without using cash. The development of digital payments can affect the demand and supply of money, as well as the effectiveness of monetary policy instruments.
2. **Peer-to-Peer (P2P) Lending:** Online platforms that connect borrowers and lenders directly, without going through traditional financial institutions. Examples are Amartha, Investree, and Modalku. This type of fintech allows individuals and MSMEs to gain access to credit more easily, while lenders can obtain attractive returns. P2P lending can affect credit distribution and economic growth, as well as create new monetary policy transmission channels.
3. **Crowdfunding:** Crowdfunding is raising funds from many people through online platforms to support a particular project or business. This type of fintech allows individuals and start-up companies (startups) to obtain capital from the wider community, while investors can participate in funding attractive projects. Crowdfunding can encourage entrepreneurship and innovation, as well as affect economic growth.
4. **Insurance Technology (Insurtech):** Insurtech is the application of technology in the insurance industry to improve efficiency and offer more personalized

products. Examples are PasarPolis and Qoala. This type of fintech allows people to gain access to insurance more easily and affordably, while insurance companies can improve operational efficiency and reach a wider market. Insurtech can affect the insurance industry and consumer protection.

5. Regulatory Technology (RegTech): Regtech is the use of technology to improve compliance with regulations and supervision in the financial sector. This type of fintech allows financial companies to improve compliance with regulations (compliance) which are increasingly complex more efficiently and effectively. Regtech can improve the integrity and stability of the financial system.

B. The Influence of Fintech on Monetary Policy Transmission

Fintech can affect monetary policy transmission through various channels. First, fintech can affect the demand for money and the velocity of money. Digital payment platforms that facilitate non-cash transactions can increase the velocity of money circulation. This is because people tend to transact more often when using digital payments, so money changes hands more quickly. The increase in the velocity of money circulation in turn can affect the effectiveness of monetary policy instruments such as interest rates (Demirguc-Kunt et al., 2018).

A study by Milian et al. (2022) found that increased adoption of digital payments in Kenya was correlated with an increase in the velocity of money and a decrease in the demand for money. The decrease in the demand for money occurs because people do not need to hold a lot of cash when they can easily transact using digital payments.

Second, fintech can create new transmission channels that are not covered in the monetary policy framework which focuses on direct credit distribution through banking. For example, peer-to-peer (P2P) lending platforms can affect credit distribution and economic growth directly, without going through the banking system (Huang & Wang, 2022).

A study by Bräuning & Mancini (2019) shows that P2P lending platforms in Europe have become an alternative source of funding for Small and Medium Enterprises (SMEs), which can affect the effectiveness of central bank monetary policy. This is because P2P lending platforms can respond to changes in policy interest rates more quickly than traditional banks, and can reach segments of borrowers that are not served by the conventional banking system (underserved/underbanked people).

Thus, the development of fintech can affect monetary policy transmission by changing the velocity of money, the demand for money, and creating new transmission channels. Central banks need to understand and consider these implications in formulating and implementing monetary policy.

C. The Influence of Fintech on Financial System Stability

Fintech has the potential to affect financial system stability, both positively and negatively. On the positive side, fintech can increase efficiency in financial markets by reducing transaction costs and increasing process speed, and can increase transparency by providing information that is more easily accessible and understood by all parties. The negative side of fintech includes several risks as follows:

1. Credit risk: P2P lending platforms can face increased credit risk if they do not have adequate risk mitigation mechanisms (Tang, 2021). A study by Gao et al. (2023) shows that platforms with weak credit rating standards tend to have higher levels of bad credit.
2. Liquidity risk: Fintech platforms that rely on short-term funding are vulnerable to liquidity risk (Kou et al., 2021). A case study by Corbet et al. (2022) shows that

- digital payment platforms in India experienced a liquidity crisis when there was a massive withdrawal of funds by users.
3. Systemic risk (contagious effect): Interconnections between fintech platforms and traditional financial institutions can create a risk of transmission which can exacerbate the financial crisis (Adrian & Shin, 2019). A study by Cecchetti & Kharroubi (2018) shows that shocks in the fintech sector can spread to the banking sector.
 4. Operational risk: Another risk that needs to be considered is operational risk, such as cyberattacks and system failures, which can disrupt the operations of fintech platforms and harm users (Schueffel, 2016).

Therefore, the central bank needs to develop a comprehensive regulatory and supervisory framework in order to mitigate the risks arising from fintech and maintain financial system stability.

METHOD

This literature review was conducted using a qualitative systematic approach to identify and analyze relevant literature on the influence of fintech on monetary policy in developing countries. The literature search was carried out on various academic databases, such as JSTOR, EBSCOhost, ScienceDirect, ProQuest, and Google Scholar, using keywords such as "fintech", "monetary policy", "developing countries", "policy transmission", "financial system stability", "financial inclusion", "CBDC", "fintech regulation", and "fintech supervision".

The inclusion criteria in this review include (i) Academic articles published in reputable journals, indexed by Scopus or Web of Science; (ii) Reports from international organizations such as the Bank for International Settlements (BIS), the World Bank, and the International Monetary Fund (IMF); and (iii) Policy documents from central banks in developing countries.

Articles and reports were selected based on their relevance to the topic and their contribution to understanding the influence of fintech on monetary policy in developing countries. The selected literature was then analysed thematically to identify key trends, challenges, and opportunities related to fintech and monetary policy.

RESULTS AND DISCUSSION

A. The Influence of Fintech on Financial Inclusion

Fintech has the potential to significantly increase financial inclusion in developing countries. This is because fintech can reach segments of society that were previously excluded from the formal financial system (unbanked/underserved population) due to geographical limitations, lack of identity documents, or low income. Fintech services, such as digital payment platforms and online lending, can provide access to financial services that are more affordable, easier, and faster than conventional banking services.

A study by Aron (2018) shows that the use of mobile money in Kenya has increased access to financial services for low-income communities. This is because mobile money agents are more widely spread than bank branches, and mobile money services are more affordable than conventional banking services.

Another study by Chakrabarti et al. (2019) found that the use of digital payments in India was correlated with an increase in household consumption and a decrease in poverty. This is because digital payments make it easier for people

to make transactions and access credit, which can increase economic activity and income.

Thus, fintech can play an important role in increasing financial inclusion in developing countries. However, it is important to ensure that fintech development is carried out in a sustainable manner and pays attention to consumer protection.

B. Central Bank's Monetary Policy in Responding to Fintech Development

The development of fintech presents challenges and opportunities for central banks in developing countries. On the one hand, fintech can increase the efficiency and effectiveness of monetary policy. On the other hand, fintech can also create new risks to financial stability. Central banks in various countries have taken various approaches to respond to fintech developments. These approaches include:

1. Developing an adaptive regulatory and supervisory framework. This framework is needed to mitigate the risks arising from fintech and ensure that fintech develops in a sustainable manner. For example, the Financial Services Authority (OJK) in Indonesia has issued several regulations related to fintech, including regulations on digital payments, online lending, and equity crowdfunding.
2. Encouraging innovation in monetary policy. Central banks can use technological advances to improve the effectiveness of monetary policy. For example, several central banks are exploring the development of Central Bank Digital Currency (CBDC) as a new monetary policy instrument.
3. Increasing international cooperation. International cooperation is needed to share information and best practices in regulating and supervising fintech. For example, the Bank for International Settlements (BIS) has formed a Fintech Innovation Hub to facilitate international cooperation in the fintech sector.

C. Central Bank Digital Currency (CBDC)

One of the most interesting innovations in monetary policy in response to fintech developments is the development of CBDC. CBDC is a digital form of fiat money issued by the central bank. CBDC has the potential to increase the efficiency and inclusiveness of the payment system, as well as strengthen monetary policy transmission.

However, CBDC development needs to consider various aspects, including design, implications for stability and monetary policy transmission, and an appropriate regulatory and supervisory framework. Central banks also need to conduct careful research and testing before launching CBDC.

Discussion

Based on the results of this literature review, several recommendations can be made for central banks in developing countries, including:

1. Continue to monitor and study the development of fintech and its implications for monetary policy.
2. Develop an adaptive regulatory and supervisory framework that can mitigate the risks arising from fintech and ensure that fintech develops in a sustainable manner.
3. Encourage innovation in monetary policy, including exploring the development of CBDC.
4. Increase international cooperation to share information and best practices in regulating and supervising fintech.
5. Educate the public about fintech and its implications for the economy and financial system.

This literature review has several limitations. First, this review only focuses on academic literature. Second, this review does not discuss in detail the specific conditions in each developing country. Further research is needed to address these limitations.

CONCLUSION

Fintech has a significant influence on monetary policy in developing countries. Fintech can affect monetary policy transmission, financial system stability, and financial inclusion. Central banks need to understand and consider these implications in formulating and implementing monetary policy. This literature review shows that fintech can strengthen monetary policy transmission and promote financial inclusion. However, fintech can also increase risks to financial stability, such as credit, liquidity, and operational risks.

Central banks need to take an adaptive approach in responding to fintech developments. This approach includes developing an adaptive regulatory and supervisory framework, encouraging innovation in monetary policy, and increasing international cooperation. CBDC is one of the interesting innovations in monetary policy in response to fintech developments. However, CBDC development needs to be carried out carefully by considering various aspects.

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