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Fractional Reserve Banking System and Money Multiplier Effect: A Proposed Scheme from Sharia Banking

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A B S T R A C T

This study analyzes the effects of implementing the fractional reserve requirement banking system, its impact on the money multiplier, and the solutions offered by Sharia banking. The world community is starting to care about the dangers of the three pillars and their impact on the economy. Interest, fiat money, and fractional reserves are requirements in the banking system. This must be studied deeply to return the economy and monetary system to a usury-free system. This research uses a mixed method with a systematic literature review (SLR) method to identify, evaluate, and synthesize the findings of various studies regarding questions or research topics surrounding fractional reserves, their macroeconomic impact, and solutions from the perspective of Sharia banks. The quantitative approach is also used to support the counting of money multiplier effect. We suggest the consequence of requiring scheme and product development in Sharia banks, one of which is an investment banking scheme with a Mudharabah Muqayyadah product

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INTRODUCTION

The banking system plays a crucial role in the economy, serving as a vital component of the financial infrastructure. It facilitates the flow of funds between savers and borrowers, enabling economic growth, development, and stability. The banking system's functions include its role as Financial Intermediation. Banks act as intermediaries between savers and borrowers, mobilizing funds from depositors and providing loans to businesses and individuals, thereby facilitating economic activity (Barna & Ruschyshyn, 2020; Nguyen, 2022; Oteshova et al., 2020). Then, banks maintain liquidity by holding liquid assets, ensuring that they can meet the withdrawal demands of depositors, thereby maintaining financial stability (Barna & Ruschyshyn, 2020; Dedu et al., 2021; Zabchuk & Ivashchuk, 2022).

Banks manage risk by diversifying their portfolios, hedging against market fluctuations, and maintaining adequate capital buffers to absorb potential losses (Kesraoui et al., 2022; Dedu et al., 2021; Zabchuk & Ivashchuk, 2022). Central banks use the banking system to implement monetary policy, influencing interest rates, credit availability, and overall economic activity (Kesraoui et al., 2022; Dedu et al., 2021; Abuselidze, 2021). The banking system plays a key role in maintaining financial stability by providing a safety net for depositors, ensuring the continuity of financial services, and mitigating the impact of economic shocks (Barna & Ruschyshyn, 2020; Dedu et al., 2021; Zabchuk & Ivashchuk, 2022).

The banking system's lending activities stimulate economic growth by providing capital for businesses and individuals to invest in productive activities, thereby driving economic development (Dziubliuk, 2019; Nguyen, 2022; Oteshova et al., 2020). Banks can support innovation by funding startups and entrepreneurs, thereby contributing to developing new industries and technologies (Dziubliuk, 2019; Abuselidze, 2021). The banking system is subject to a regulatory framework that ensures the safety and soundness of banks, protecting depositors and maintaining financial stability (Barna & Ruschyshyn, 2020; Dedu et al., 2021; Zabchuk & Ivashchuk, 2022). In summary, the banking system is essential for the functioning of the economy, providing financial intermediation, liquidity, risk management, monetary policy implementation, financial stability, economic growth, innovation, and regulatory oversight.

Another theoretical study said that a bank is not an intermediary institution in the classical sense. Instead, banks act as financial intermediaries by pooling deposits from many individuals and businesses and lending those funds to others. This process allows banks to create new money and credit, stimulating economic activity. The banking system is influenced by global financial cycles, which can exacerbate the impact of crises. Global financial cycles can lead to imbalances in the financial system, causing crises to spread across borders and affecting the stability of the banking system (Shlapak, 2022; Todorovic et al., 2015).

Commercial banks must maintain a fraction of their deposits in reserve rather than lending them out. This fraction is known as the reserve requirement. The remaining portion of deposits can be lent out or invested.

Central banks typically set the reserve requirement, which can vary over time. Commercial banks create money by extending credit to borrowers in the Fractional Reserve Banking System. When a bank makes a loan, it does not simply transfer existing money from one account to another. Instead, it creates new money by crediting the borrower's account and increasing the bank's reserves. This process is called credit expansion. When a bank makes a loan, it increases the money supply by creating new money. This new money is then deposited into the borrower's account, increasing the bank's reserves. This process is known as deposit expansion. As more loans are made and deposits are created, the money supply grows (Ishaq, 2015; Espinosa et al., 2013; Hotz, 2021).

Some critics argue that the FRBS is inherently risky and can lead to economic instability. They point out that creating new money through credit expansion can lead to inflation and asset bubbles. Additionally, the FRBS can lead to the concentration of wealth among the wealthy, as they are more likely to have access to credit and financial services (Musgrave, 2021). Some alternative systems, such as the 100% reserve banking system, aim to eliminate the risks associated with the FRBS by requiring banks to maintain 100% reserves against deposits. This system is designed to prevent the creation of new money through credit expansion and to reduce the risk of bank failures (Baeriswyl, 2021; Lainà, 2018). Based on the previous study, a theoretical gap exists in discussing the bank's role as the intermediary institution. The fractional reserve banking system plays a crucial role in money creation through credit expansion, deposit expansion, and the money multiplier effect. However, it also has criticisms and limitations, and alternative systems are being explored to address these issues.

Some alternative systems, such as the 100% reserve banking system, aim to eliminate the risks associated with the FRBS by requiring banks to maintain 100% reserves against deposits. This system is designed to prevent the creation of new money through credit expansion and to reduce the risk of bank failures (Baeriswyl, 2021; Lainà, 2018). In summary, the fractional reserve banking system plays a crucial role in money creation through credit expansion, deposit expansion, and the money multiplier effect. However, it also has criticisms and limitations, and alternative systems are being explored to address these issues. We fill the gap by calculating the money multiplier effect from the evidence of Indonesia and the solutions that are viewed from Sharia banking.

LITERATURE REVIEW

Fractional Reserve Banking is a practice where banks maintain only a portion of customer deposits as available reserves (currency or central bank deposits) as a liability for payment in case of customer withdrawals. The bank uses the rest of the customer's funds to make investments or loans (credit) to other customers. These funds are later deposited back into other banks, allowing further lending. If, in the monetary system, there are an infinite number of banks, then the loan distribution process continues with endless acceleration and creates a multiplier effect. So far, the money creation process has been carried out in three ways: firstly, by printing paper currency or coins printed by the central bank or what is often called currency; secondly, by procuring debt and loans by commercial banks that the government permits or often called demand deposits, and thirdly through various government policies, for example, such as quantitative easing.

Fractional reserve banking (FRB) can lead to inflation through several mechanisms. First, FRB allows commercial banks to create new money by extending credit to borrowers. This increases the money supply, which can lead to inflation if the economy is already at full capacity or if the money supply grows faster than the economy's productive capacity. It enables banks to expand credit, increasing aggregate demand and, subsequently, inflation. This is because an increase in credit can lead to increased spending and consumption, which can drive up prices (Kantor, 1988; Altinisik & Yucememis, 2024; Zhang et al., 2017).

Central banks can use FRB to implement monetary policy, influencing interest rates, credit availability, and overall economic activity. If monetary policy is not effectively managed, it can lead to imbalances in the financial system and contribute to inflation (Altinisik & Yucememis, 2024; Imhof, 2017; Mcclure, 1986; Saratian et al., 2024). FRB can lead to risk-taking by banks, which can result in an increase in lending and an expansion of the money supply. This can lead to inflation if the economy cannot absorb the increased demand (Imhof, 2017; Zhang et al., 2017). It can also create inflationary expectations among consumers and businesses, increasing spending and consumption. This can drive up prices and contribute to inflation. It is based on fiat money, meaning a commodity standard does not back the money supply (Saratian et al., 2019). This can lead to an increase in the money supply and, subsequently, inflation (Kantor, 1988; Altinisik & Yucememis, 2024; Zhang et al., 2017). It also can lead to an increase in interest rates, which can drive up borrowing costs and reduce consumption. This can lead to a decrease in aggregate demand and, subsequently, a decrease in inflation. However, if interest rates are not effectively managed, they can increase inflation (Kesraoui et al., 2022; Dedu et al., 2021; Abuselidze, 2021).

Ahmad and Ismail (2017) and Saratian et al. (2019), using a full reserve system, can achieve Maqasid Syariah to support alternative banking systems. By using arguments for a fractional reserve system, discussion of the concept of a full reserve system, analysis of the impact of a full reserve system, and support from the Al-Quran and Hadith, this research concludes that injustice and usury can be avoided with the existence of a full reserve system, thereby achieving Maqasid Syariah (Sihombing et al., 2019; Nugroho et al., 2019). Chair (2014), usury is the addition of more than the initial capital, usury transactions are often found in debt transactions where the creditor asks the debtor for additional initial capital. Riba is often also translated as additional money for capital obtained in a way prohibited by sharia, either with a small or a large additional amount. Riba (interest) has become a trend in every conventional financial transaction (Ramli et al., 2019). This idea is postulated by capitalists who do not mind its economic implications as they accumulate wealth from it (Mohammad, 2016). According to Laina (2015), a banking system with fractional reserves will cause a credit crisis, or interest rates that are too volatile are considered unfounded.

Fractional reserves, which are usually called minimum statutory reserves, are minimum funds or savings that banks must maintain in the form of demand deposit balances placed with the Central Bank. The central bank determines the amount of fractional reserves based on the percentage of third-party funds collected by the bank. This partial reserve is needed to meet the normal demand conditions from saving customers who withdraw their savings or deposits. The Rupiah denomination for conventional commercial banks in Indonesia is 6.5% of third-party funds. The Rupiah denomination is 5% of total funds for Sharia Commercial Banks and Sharia Business Units. Total reserves are generally well below 100 percent. Therefore it is called fractional. If the Central Bank requires an FRR of 10 percent, then for deposits of Rp. 100 million must provide a minimum reserve of Rp. 10 million. With this regulation, banks can freely lend the remaining 90 percent to customers or depositors who need it. Logically there is nothing wrong with this rule. However, in practice, Fractional Reserve regulations place banks indirectly as agents that influence and increase the money supply. The deposit customer (Rp. 100 in cash) admits that he has Rp. 100 in cash, but 90% of the Rp. 100 has been distributed (worth Rp. 90) to the credit customer, and at the same time, the credit customer also recognizes his Rp. 90. money as his own money. In other words, the money currently in circulation is Rp. 100 (belonging to deposit customers) plus Rp. 90 (belonging to credit customers) because both depositors and credit customers can simultaneously take and recognize their respective money so that the current money in circulation becomes Rp. 190 due. to a fractional reserve system. In short, commercial banks, not just Central Banks, have participated in money printing.

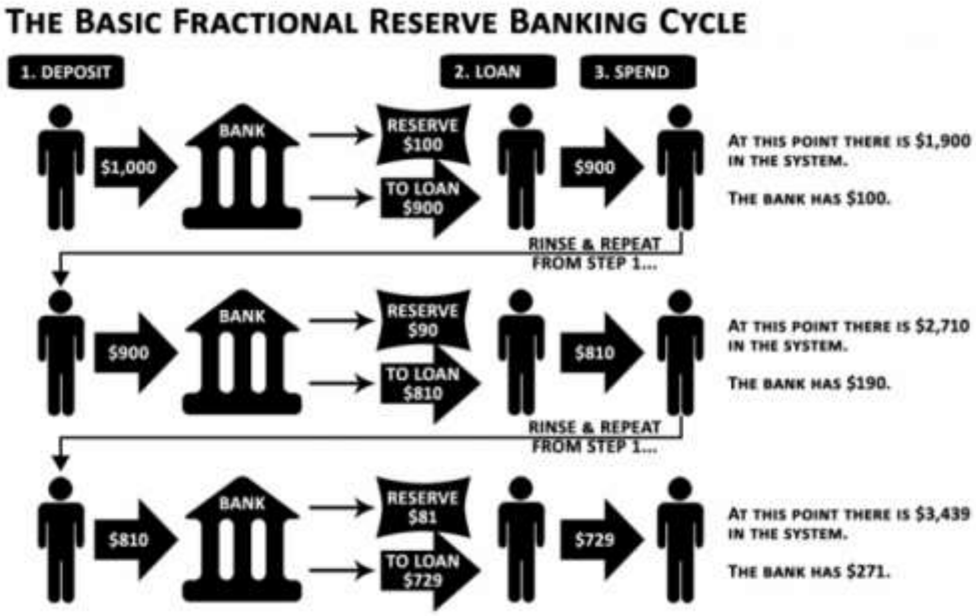


Figure 1. Fractional Reserve Banking Cycle
Sources: http://cynic.me

From the example, it can be seen that the existing schemes in commercial banks have a big influence on the reserves made by the bank, how much the customer's deposit reserves accumulate and are transferred to credit customers, including being distributed again to other banks that do the same thing. The increase in money in circulation occurs due to the reserve provision of money in circulation, which is already 9-10 times if the reserve requirement is 10%. According to Levrero and Deleidi (2017), commercial bank lending activities mainly determine the money supply endogenously. The fractional reserve requirement in the banking system is related to the usury system because it increases money creation without increasing the real sector. According to Ghofur (2016), the Al-Qur'an itself has explained in detail the stages of prohibiting usury. The first stage simply describes the negative elements of usury (Al-Qur'an, Ar-Ruum, 30: 39). Then it continues with the sign of the prohibition of usury by conveying criticism of Jews who practice usury (Al-Qur'an, An-Nisa 4: 160-161). Next, the Al-Qur'an expressly forbids usury with restrictions on adh fan mudhā afan (Al-Qur'an, Ali Imron, 3: 130) which is followed by a total prohibition against usury in various forms (Al-Qur'an, Al-Baqarah, 2: 275 - 276). The research framework is described in the figure below:

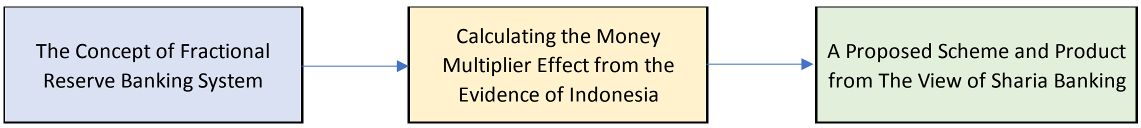


Figure 2. Research Framework

METHODOLOGY

The research employs a mixed-method approach that integrates a Systematic Literature Review (SLR) with quantitative analysis to provide a comprehensive understanding of the research question. This combined methodology leverages the strengths of both qualitative and quantitative approaches, ensuring a robust examination of the topic. SLR serves as the qualitative foundation, systematically identifying, evaluating, and synthesizing findings from various studies. This process is guided by a structured and transparent framework, which enhances the objectivity and reproducibility of the results. Through this method, the research critically analyzes existing knowledge, identifies trends, and uncovers gaps in the literature, laying a solid groundwork for subsequent quantitative analysis.

The quantitative component of the research complements the SLR by focusing on calculating the money multiplier effect within the fractional reserve banking system. This calculation employs the formula:

$$\text{Money Multiplier} = \frac{1}{\text{Reserve Ratio}}$$

The reserve ratio represents the percentage of deposits that commercial banks are required to hold in reserve rather than lend out. The money multiplier effect illustrates how banking activities contribute to money creation in the economy, thereby influencing financial stability and economic growth. By quantifying this effect, the research provides empirical evidence that adds depth and clarity to the theoretical insights gained from the SLR. The mixed-method approach is particularly advantageous as it combines the breadth of qualitative exploration with the precision of quantitative analysis. The SLR enables a comprehensive review of existing studies, ensuring that the research is grounded in established knowledge while also highlighting areas that require further investigation. The quantitative analysis, on the other hand, provides a numerical perspective on the implications of fractional reserve banking, offering practical insights into how reserve requirements shape economic outcomes.

To guide this integrated methodology, a flow diagram outlines the sequential steps involved, beginning with the systematic review of literature, followed by the extraction of key findings, and concluding with the application of quantitative methods. This structured process ensures that the research remains focused and methodologically sound. By combining SLR and quantitative analysis, the study achieves a balanced integration of theory and practice. The qualitative insights from the SLR inform the design and interpretation of the quantitative findings, while the quantitative results validate and enrich the theoretical frameworks established during the review. This mixed-method approach not only enhances the reliability and validity of the research but also provides a holistic perspective on the research question, making it a valuable contribution to both academic and practical domains.

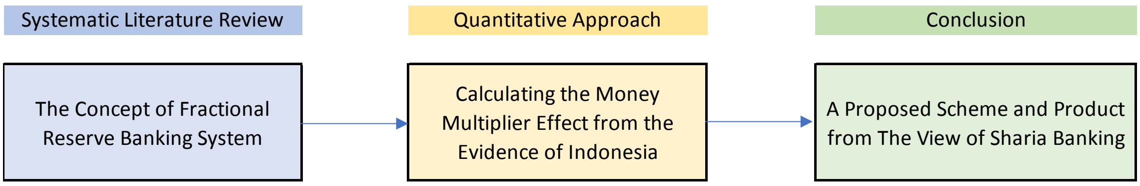


Figure 3. Flow Diagram of the Research Method

RESEARCH RESULT

From the explanation above, it can be concluded that Fractional reserve banking is a system that is full of risks, even denying beneficial aspects that threaten economic stability. The implications of this system caused many crisis phenomena, the clearest example being the Great Depression in the 1930s. In this regard, Islam views Fractional reserve banking as a system that contains a large composition of harm, so it is considered to be contrary to the principles and values brought by Islam. Islamic Bank concretely offers a very humanistic system with a profit and loss sharing (PLS) system. The implications are very positive; economic stability is relatively stable and can stimulate the investment climate without weakening banking liquidity aspects because 100% reserves in banks are necessary.

The effect of macroeconomics is that it can become inflationary with the money supply increasing, but the product factor remains constant because the growth of ideal production factors is not fast, and prices continue to rise. Especially in our current millennial generation, most of their purchasing power is through debt or installments. The number of multiples of money or Commercial Banking Scheme-Money Multiplier in several countries with the calculation (1: Reserve Ratio):

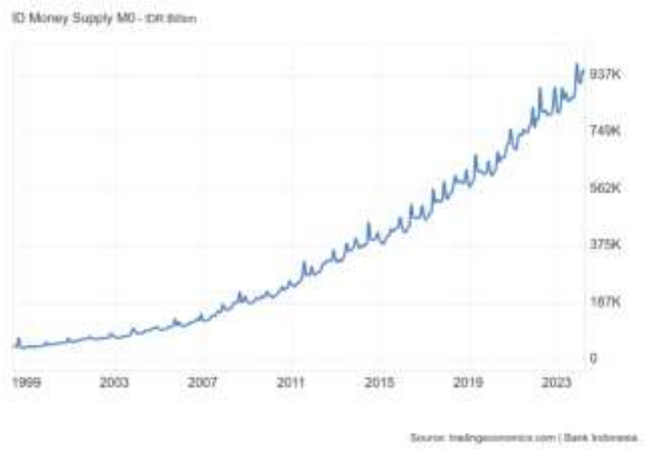
- Indonesia Multiplier 20x, assuming an average fractional reserve of 5%
- America Multiplier 16.7x, assuming an average fractional reserve of 6%
- Saudi Arabia Multiplier 3.3x, assuming an average fractional reserve of 30%
- Average multiplier in other countries is 9-10x, assuming an average fractional reserve of 10%

Types of money and the following is the amount of money in Bank Indonesia source data as per XX:

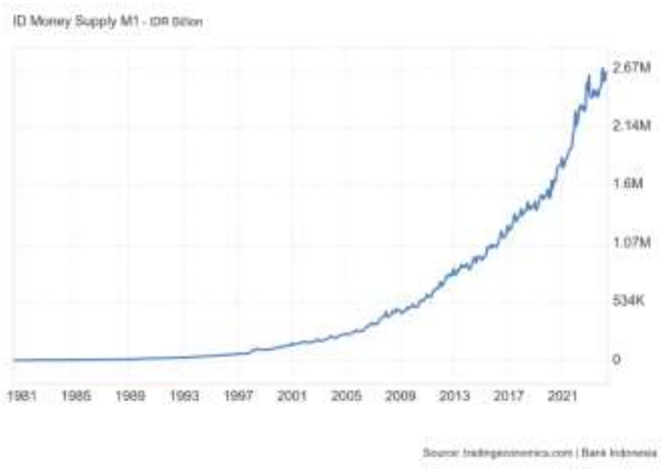
- M0 is currency and commercial bank demand deposits totalling IDR 975,927 billion
- M1 is currency and demand deposits held by the public amounting to ID 2,675,333 billion
- M2 is money which includes M1, short-term bank deposits and money market funds totalling IDR 9,026,200 billion
- M3 is money that includes M2, and long-term savings no longer exist in the central bank

Trend graph on M0 – M2:

MONEY SUPPLY M0



MONEY SUPPLY M1



MONEY SUPPLY M2

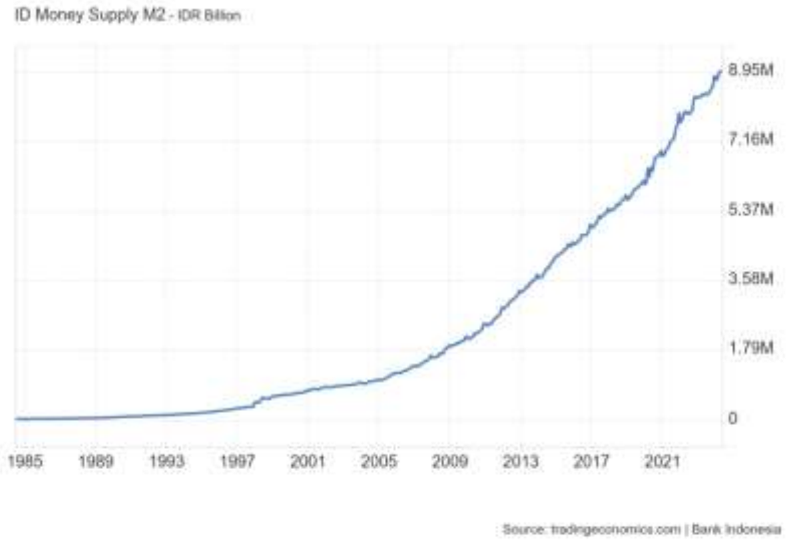


Figure 4. Money Supply Trends
Source: tradingeconomics.com (2024)

In contrast to the past, providing a stable supply with cash asset payments, today's increasing growth is very difficult, and there is a sharp or high increase. If we associate GDP with the real sector, the following is a graph of Indonesia's Real GDP growth data from 2005-03 to 2023:

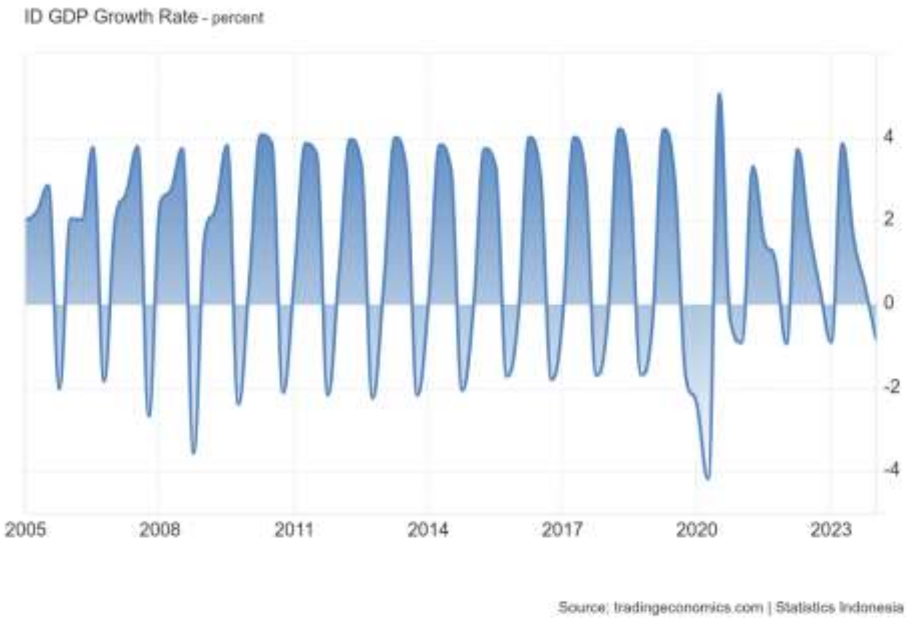


Figure 5. GDP Growth of Indonesia
Source: tradingeconomics.com (2024)

Compared to the ideal economic growth in Indonesia's real sector, which must be balanced with the financial sector, economic growth in Indonesia's real sector is said to be stagnant. As factory utilization reflects the condition of the real sector, on average, it only has 75% utilization of its installed capacity, so it can be concluded that the real sector tends to stagnate compared to the growth of the financial sector, which is associated with the amount of money in circulation. This will cause inflation, increase the price of goods, and weaken people's purchasing power.

From the results of this research, several things have been found that can be discussed, suggestions that have been mentioned so that they can be realized well, and several recommendations that can be used as input for related parties. So far, banking has been considered a financial intermediary with three functions. First, it is an institution that collects funds from the public in the form of savings. Second, as an institution that channels funds to the public through credit, and third, to facilitate trade transactions and money circulation. Unfortunately, the practice that occurs is outside the existing function. Profit maximization is a reason for banks to "maximize" their functions even though something must be at stake. It turns out that banking, including Sharia banking, is an institution that prints money from a vacuum, so it is considered to conflict with Sharia principles themselves.

With the conditions above, the investment banking concept is considered more suitable for Sharia banking. One of the contracts used in the investment banking scheme in Sharia banking is Mudharabah Muqayyadah. Mudharabah Muqayyadah is an investment scheme that complies with sharia principles and can be used in the context of investment banking. The following is an example of an investment banking scheme that uses Mudharabah Muqayyadah. Minimum parties must be present: 1) Investor: An investor who wants to invest in a project or business that complies with Sharia principles. 2) Investment Bank: An investment bank representing investors and facilitating investment transactions. 3) Project/Business: A project or business you want to invest in must comply with Sharia principles.

The proposed steps that must be taken are as follows: 1) Proposal Submission: Investors submit an investment proposal to the Investment Bank by identifying the project or business they wish to invest in. 2) Proposal Review: The Investment Bank reviews proposals to ensure that the project or business complies with Sharia principles and has significant profit potential. 3) Contract Signing: If the proposal is accepted, the investor and the Investment Bank sign a Mudharabah Muqayyadah contract which ensures that the investor will participate in the profits or losses of the project or business. 4) Project/Business Management: The Investment Bank manages the project or business and ensures that its operations comply with Sharia principles. 5) Profit Sharing: If the project or business produces a profit, the investor and the Investment Bank will share the profit based on a previously agreed percentage. 6) Loss Management: If the project or business experiences a loss, the investor and Investment Bank will bear the loss based on a previously agreed percentage.

CONCLUSIONS AND RECOMMENDATIONS

From the discussion above, several conclusions can be drawn based on the verses of the Qur'an that usury is something that is haram because it is considered very clear, and chronologically, the essence of the prohibition can be understood. On the other hand, the Al-Quran strongly encourages humans to give alms, as He says in the Al-Quran, Al-Baqarah, verse 276, "Allah destroys usury and enriches alms".

Apart from that, it can be concluded that the advantages and challenges of the investment banking scheme with the Mudharabah Muqayyadah agreement in Sharia Banking. The advantages include: 1) Transparency: Mudharabah Muqayyadah allows investors to clearly understand how the profits or losses of the project or business are shared. 2) Participation: Investors participate directly in the profits or losses of the project or business so that investors have the motivation to monitor and manage the project or business well. 3) Sharia principles: Mudharabah Muqayyadah allows investors to invest in projects or businesses that comply with Sharia principles so that investors can ensure that their investments are in accordance with religious values.

Apart from the advantages obtained, several things that become challenges in this scheme and product include: 1) Risk: Investors risk experiencing losses if the project or business experiences losses. 2) Costs: Mudharabah Muqayyadah can have higher costs than other investment schemes, as investors must pay the costs of managing the project or business. In this scheme, the Investment Bank functions as the investor's representative and facilitates investment transactions. They also manage the project or business and ensure that its operations comply with Sharia principles. In this way, investors can ensure that their investments comply with Sharia values and have the potential for significant profits.

Prophet Muhammad Sallallaahu 'Alaihi Wasallam said: "Whoever sees (whatever is) evil, then change it with his hand; and if he is unable, then with his tongue; and if he is unable, then with his heart; and that is the weakest faith" (HR. Muslim).

FURTHER STUDY

This research has provided valuable insights into the implications of fractional reserve banking and its alignment with Sharia principles, offering a foundation for alternative approaches like Mudharabah Muqayyadah investment schemes. However, several areas warrant further exploration to deepen understanding and broaden the scope of application. Future studies could investigate the comparative efficiency and scalability of the Mudharabah Muqayyadah scheme in various economic contexts, particularly in emerging markets where Sharia-compliant banking is rapidly growing. Additionally, further research should explore the behavioral responses of stakeholders, including investors, banks, and regulators, to such Sharia-compliant models, examining how these responses influence adoption rates and economic stability. Quantitative studies on the long-term impact of shifting from fractional reserve banking to full-reserve or profit-sharing systems could provide more robust evidence for policymakers. Lastly, incorporating case studies and real-world applications of Sharia-compliant financial products could yield practical insights, addressing implementation challenges and identifying best practices for integrating ethical finance principles into mainstream banking systems.

REFERENCES

Abuselidze, G. (2021). The Impact of Banking Competition on Economic Growth and Financial Stability: An Empirical Investigation. *European Journal of Sustainable Development, 10*, 203-203.

Ahmad, Z., & Ismail, A. G. (2017). Full reserve system and the Maqasid Shariah. *Journal of Emerging Economies and Islamic Research, 5*(2), 58-66.

Al-Qur'an, Al-Karim.

Altinisik, E.O., & Yucememis, B.T. (2024). The relationship between money supply and inflation: analysis with PANELVAR approach. *Pressacademia*.

Baeriswyl, R. (2021). Intertemporal discoordination in the 100% reserve banking system.

Barna, M., & Ruschyshyn, N. (2020). Banking system of the country: Elements, functions and potential in ensuring economic growth.

Chair, Wasilul. (2014). Riba dalam Perspektif Islam dan Sejarah. *Jurnal Iqtishadia, 1*(1) Edisi 1, 98-113.

Dedu, V., Nitescu, D.C., & Cristea, M. (2021). The Impact of Macroeconomic, Social and Governance Factors on the Sustainability and Well-Being of the Economic Environment and the Robustness of the Banking System. *Sustainability*.

Dziubliuk, O. (2019). The role of the banking system in the innovative development of economy. *Herald of Ternopil National Economic University*.

Espinosa, V.I., Alonso-Neira, M.A., & Huerta de Soto, J. (2023). The Ethics of Fractional-Reserve Banking System: A Private Property Rights Approach. *Economies*.

Ghofur, A. (2016). Konsep Riba dalam Al-Qur'an. *Jurnal Economica VII*(1), 1-26.

Hadits Muslim.

Hotz, R. (2021). Considerations on Fractional Reserve Banking and Free-Banking. *REVISTA PROCESOS DE MERCADO*.

Imhof, S. (2017). Risk and Balance Sheet Size in a Model of Fractional Reserve Banking.

Ishaq, H.M. (2015). Impact of Fractional Reserve Banking System on the Ownership Structure of Economy.

Kantor, B.S. (1988). Hutt's views on money. *Managerial and Decision Economics, 9*, 79-83.

Kesraoui, A., Lachaab, M., & Omri, A. (2022). The impact of credit risk and liquidity risk on bank margins during economic fluctuations: evidence from MENA countries with a dual banking system. *Applied Economics, 54*, 4113 - 4130.

Laina, P. (2015). Money Creation under Full-reserve Banking: A Stock-flow Consistent Model. *Working Paper*, 851, 1–32.

Lainà, P. (2018). Money creation under full-reserve banking: a stock–flow consistent model. *Cambridge Journal of Economics*.

Levrero, Enrico Sergio and Deleidi, Matteo. (2017). The money creation process: A theoretical and empirical analysis for the US. *MPRA Paper*, 81970, 1-29.

Mcclure, J. (1986). Welfare-Maximizing Inflation Rates under Fractional Reserve Banking with and without Deposit Rate Ceilings: A Note. *Journal of Money, Credit and Banking*, *18*, 233-238.

Mohammad, I. (2016). Riba (Usury); a Tool that should be Carved out of Financial Transactions. *Turkish Journal of Islamic Economics, 3*(2), 13-24.

Musgrave, R. (2021). Our absurd fractional reserve bank system. *Munich Personal RePEc Archive*. No. 108488. https://mpra.ub.uni-muenchen.de/108488/.

Nguyen, P. T. (2022). The Impact of Banking Sector Development on Economic Growth: The Case of Vietnam's Transitional Economy. *Journal of Risk and Financial Management*.

Nugroho, L., Bahari, N. P., Putra, Y. M., Mahliza, F., & Oktasari, D. P. (2021). Analisa Manfaat Pembiayaan Gadai Emas Syariah (Studi Kasus Bank Syariah Mandiri-Tomang Raya). *Prosiding Konferensi Nasional Ekonomi Manajemen dan Akuntansi (KNEMA)*, *1*(1).

Oteshova, A.K., Alekseevna, P.N., Melekhina, T.L., & Gavrilieva, N.K. (2020). Trends in the Development of the Commercial Banking System in a Market Economy. *Webology*, *17*, 315-332.

Ramli, Y., Saratian, E. T. P., Soelton, M., & Setiawan, M. (2019, November). Riba Prohibition for The Community Economic Sustainability. In *ICCD* (Vol. 2, No. 1, pp. 612-615).

Saratian, E. T. P., Arief, H. ., Oktaviar, C. ., Marlapa, E. ., & Soelton, M. . (2024). Advancing the Financial Inclusion with Profit Sharing Scheme for the Sustainability of Indonesian MSMEs. *Indonesian Journal of Society Development*, *3*(3), 105–112. https://doi.org/10.55927/ijsd.v3i3.9884

SARATIAN, E. T. P., ARIEF, H., RAMLI, Y., PERMANA, D., & SOELTON, M. (2023, November). Introduction of Sharia Financing Contracts For The Indonesian Msmes. In *ICCD* (Vol. 5, No. 1, pp. 296-301).

Saratian, E. T. P., Arief, H., Soelton, M., Vizano, N. A., & Mugiono, M. (2019, November). Dinar and Dirham; Sustainable Money for Sustainable Society. In *ICCD* (Vol. 2, No. 1, pp. 517-521).

Saratian, E. T. P., Aysa, I. R., & Sudiana, U. (2024). The Effect of Implementing Sharia Principles in the Financial Industry on Economic Stability: Case Study at Bank BTPN Syariah. *Al Urwah: Sharia Economics Journal*, *2*(01), 50-57.

Saratian, E. T. P., Soelton, M., Mugiono, M., & Muhtadin, M. (2019, November). Knowledge of "Maghrib"(Maysir, Gharar And Riba) For The Halal Transaction Of The Community. In *ICCD* (Vol. 2, No. 1, pp. 33-37).

Shlapak, A. (2022). Global financial cycles and the problem of regulation of international capital flows: the role of banks and macroprudence policy in responding to crises. *Vìsnik Marìupol's'kogo deržavnogo unìversitetu. Serìâ: Ekonomìka*.

Sihombing, L., Saratian, E. T. P., Soelton, M., Permana, D., & Noermijati, N. (2019, November). Full Reserve Requirement Banking System for The Community Economic Sustainability. In *ICCD* (Vol. 2, No. 1, pp. 542-545).

Todorovic, V., Vuksanovic, E., & Jakšić, M. (2015). COMPARATIVE ANALYSIS OF THE CAUSES AND CONSEQUENCES OF REPRESENTATIVE BANKING CRISES.

Zabchuk, H., & Ivashchuk, O. (2022). RISKS OF THE BANKING SYSTEM OF UKRAINE IN THE CONDITIONS OF MARTIAL LAW. *THE INSTITUTE OF ACCOUNTING, CONTROL AND ANALYSIS IN THE GLOBALIZATION CIRCUMSTANCES*.

Zhang, S., Monet, C., & Imhof, S. (2017). Financial Stability and Fractional Reserve Banking.