



Research Paper

Bank Credit in Financial Cycle during COVID-19 Pandemic: Dilemma from Indonesia

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ABSTRACT

Keywords:	Bank credit is crucial to boost economic growth and		
Bank Credit; Financial	reserve financial stability during the COVID-19 pandemic.		
Crisis; Financial Behavior;	However, a previous study has yet to establish the state of		
Financial Cycle	bank credit in the financial cycle during the COVID-19		
<i>Article history:</i> Received: 09 April 2022 Revised: 16 August 2022 Accepted: 21 August 2022 Available online: 12 December 2022	pandemic in Indonesia. This study discovered different categories of banking credit dilemmas during the COVID-19 pandemic in Indonesia, including mild category, moderate category, heavy category, and very heavy category. During the global pandemic from 2019 to July 2021. This study used monthly development of the Ed Waves Index model through the Einangial Panart of Bank Indonesia. The		
<i>To cite in APA style:</i> Basmar, E., Campel III, C., M., Basmar, E. (2022). Bank Credit in Financial Cycle during COVID-19 Pandemic: Dilemma from Indonesia. <i>Shirkah: Journal of</i> <i>Economics and Business, 7</i> (3), 253-266.	through the Financial Report of Bank Indonesia. The pressure dilemma includes moderate category (1 time), mild category (1 time), heavy category (2 times), and very heavy category (1 time) which indicate that there is serious pressure on financial stability and economic growth in Indonesia during the outbreak. This research makes an important contribution to the banking sector and Bank Indonesia in controlling the bank's soundness through distribution channels of credit and a stable financial cycle as well as economic growth in Indonesia during the COVID-19 pandemic.		

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Introduction

In the economic concept, bank credit is a monetary instrument that is indirectly under the control of the Central Bank, through banking activities to support the goals and



objectives of the Central Bank in maintaining financial stability and consistent economic growth (Basmar et al., 2022). The important role of bank credit is certainly inseparable from the world economy (Khan et al., 2015), where its usefulness is needed for both developed and developing countries in carrying out their economic activities. Despite developed countries having advanced technology, the likelihood of a banking crisis is increased by higher external debt (Gaies & Nabi, 2021). Developing countries urgently require bank credit to complete the process of creating an infrastructure for economic activity in the real sector, which serves as the fundamental building block of the economy for improved financial performance through financial stability and consistent economic growth (Céspedes et al., 2013).

The development of the economy experienced a shift, in which in theory the behavior of banking credit in an economy became controversial, the shift occurred because maximum credit distribution was no longer a driver of financial stability and economic activity for both developed and developing countries (Bernanke et al., 1999). Bank credit is expanding quickly in developed countries, where central bank policy favors low-interest rates and efficient credit distribution (Rafique et al., 2021). But in the long term, it causes damage to the financial system, which has an impact on the collapse of several financial institutions due to shifting credit treatment (Basmar et al., 2019). On the other hand, bank lending channel in developing countries fosters the economy (Abuka et al., 2015). Behind this situation, damage to the banking system occurs because lending has an effect on the financial performance of the banking system itself (Harun et al., 2014; Wahyudi et al., 2019). High non-performing loans affect capital (Sebayang, 2020), which has an impact on decreasing the soundness of banks in the long term (Huljak et al., 2022).

Later, the bank credit dilemma led to issues for the global economy, including the Covid-19 pandemic (Erdem & Tsatsaronis, 2013). It has an effect on the economy, slowing down the expansion and development of the global economy (Ajello, 2016; Paradiso et al., 2013). The function of bank credit is no longer clear and inconsistent, both theoretically and practically. Due to this controversy, bank credit performance is under pressure. Loans are necessary to boost economic activity, but unchecked lending also contributes to financial instability (Soeikromo, Roeroe, & Rumokoy, 2020). Another pressure occurs when high loans in the long term carry very volatile risks (Caldara et al., 2016). These loans can cause damage to the financial system for developing and developed countries (Jermann & Quadrini, 2012). The ongoing Covid-19 pandemic has made this banking credit dilemma a problem for the global economy (Albulescu et al., 2013). Causing world economic growth and financial stability to slow down (Hafstead & Smith, 2012). The changing pressure dynamics that fluctuate rapidly have resulted in the banking credit function being in a dilemma, unclear, and inconsistent (Basmar et al., 2017; Borio, 2012).

The main issue of this inconsistency occurs due to several factors. First, The Central Bank focuses on a high rate of economic growth; credit concessions offered by banks through their interest rates will make it easier to meet its targets (Ma & Zhang, 2016). Second, the banking sector tends to take into account the amount of profit obtained through the amount of credit disbursed (Magdalena, Marpaung, & Indira, 2019). Third, most of the banking credits are given to large industrial sectors (Dell'Ariccia, 2021), which are very vulnerable to system damage when there is economic pressure. Fourth, Indonesians use credit quite frequently, which is consistent with the idea that developing

nations need quick financial flows for their financial transactions to be completed (Agénor & Pereira da Silva, 2013; El Karfi & Mentagui, 2020).

The financial cycle movement has an effect under external and internal pressure, such as the Covid-19 pandemic that affects financial activities both directly and indirectly (Bank Indonesia, 2019). This proves that the effectiveness of monetary policy has not been properly responded to through bank credit activities, the large or small influence of loans disbursed does not have a strong effect on economic growth or the financial stability level (Chen et al., 2015). This gap has resulted in conceptual rigidity in the lending policy application, which creates a dilemma for the banking sector. A previous study has yet to establish the state of bank credit in the financial cycle during the Covid-19 pandemic in Indonesia. Therefore, this research intends to assist the banking sector and the Central Bank in making decisions through appropriate monetary policy, particularly in lending policy during the Covid-19 pandemic.

Method

Research Design

The state of the art of this research refers to the theory of the relationship between the financial sector and market developments (Claessens et al, 2012; Sudarmanto et al, 2021a; Rahmadana et al, 2021). Based on theory and several previous studies, a quantitative descriptive model for this study is presented. The findings will serve as the foundation for measurement when problems and phenomena persist, and this research can help relevant parties make and decide on appropriate policies under uncertain situations.

Sample Selection and Data Sources

The measurement of this banking credit dilemma uses secondary data from the Central Bank Financial Statements which is collected in a time series (monthly), starting from the spread of the Covid-19 Pandemic in December 2019 until the time the research was conducted (July 2021). Due to the Covid-19 pandemic, the final limit of its spread has not been determined, and the limitations of this data can be developed for further research.

This study uses the development of the Ed Waves Index model (Kydland et al, 1990). The development process lies in the technique of releasing the independent variable from the pressure of the dependent variable through pressure filtering, which was tested with financial cycle pressure during the Covid-19 Pandemic in Indonesia.

Instrument and Data Analysis

This study focused on the development of the financial sector, through the theory of balance in the economic equation, where the function of bank credit (α) as a banking activity in channeling credit through investment and economic growth (Basmar et al, 2021). These results become the concept of economic balance, the amount of credit disbursement drives financial cycle activity (β), which is a measure of financial stability and economic growth (Khan et al., 2015). $\alpha = \beta$

(1)

The next stage was the financial filtering of the Ed Waves Index measurement model by breaking down the two main elements in the balance theory in stages (Equation 1), which is shown in Equation 2. $\alpha = \Sigma \zeta + \Sigma \xi + \Sigma \zeta$ (2)

Equation 2 describes the size of bank credit such as Working Capital Credit ($\Sigma \zeta = (\Sigma \alpha - (\Sigma \xi + \Sigma \varsigma) / \Sigma \alpha) * 100\%$), Investment ($\Sigma \xi = (\Sigma \alpha - (\Sigma \zeta + \Sigma \varsigma) / \Sigma \alpha) * 100\%$), and Consumption ($\Sigma \varsigma = (\Sigma \alpha - (\Sigma \zeta + \Sigma \xi) / \Sigma \alpha) * 100\%$), therefore credit measurement used these 3 indicators. In Equation 2, the credit wave moves according to its function, if there is a change in pressure on the credit indicator from Equation 2 then the wave moves to form Equation 3.

 $\alpha_{\max} = (\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha > 0.01}$

Equation 3 identifies that banking credit pressure moves maximally through the limits of movement above the normal pressure of credit waves, in this equation, the economy will experience an increase in financial activity through an increase in credit applications, assuming that this increase does not receive strong external pressure, purely because there is a positive relationship to economic growth. On the other hand, normal economic conditions and stable credit distribution, with the assumption that bank lending occurs due to changes in the level of public needs. Bank credit moves in the normal range. This increase has no effect on financial activities as described in Equation 4. $\alpha_{nor} = (\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{0.01 > \alpha < 0.01}$ (4)

Equation 5 explains that bank credit growth is experiencing a slowdown, marked by slower financial activity, with normal assumptions without pressure from macroeconomic and microeconomic variables. The slowdown occurs because people's needs are reduced, resulting in a slowing of financial turnover, which in theory has an impact on damage to the financial system for a long period, this can be illustrated in Equation 5. $\alpha_{\min} = (\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha < 0.01}$ (5)

The balance in this measurement refers to Equation 1. After knowing the pressure and movement of bank credit, the next step is to measure the financial cycle wave (β) which is economic activity on financial stability and economic growth.

Theoretically, the measurement of the financial cycle refers to the measurement of bank credit, the greater the number of bank lending, the greater the change in financial stability and economic growth, the figure is shown in Equation 6 $\beta = \Sigma (\zeta + \xi + \zeta)$ (6)

The next development stage was to measure the movement as a comparison indicator in the pressure of the banking credit dilemma. The measurement means that the financial cycle waves were only influenced by bank credit pressures (assuming that other economic indicators are considered to have no impact on the financial cycle development), to provide convenience in measuring the movement financial cycle waves, following Equation 7:

 $\beta_{\max} = \sum \left(\zeta + \xi + \varsigma\right)_{\alpha > 0.01}$

(7)

(3)

The next step was to measure changes in the financial cycle because the response to pressure changes, with normal limits and pressures. Therefore, any increase in bank credit pressure will have an effect on financial activity and changes in the economy. In this state, bank credit pressure is said to be strong (assuming that there is no pressure either internally or externally) The change can be seen in Equation 8. $\beta_{nor} = \Sigma (\zeta + \xi + \zeta)_{0.01 > \alpha < 0.01}$ (8)

The next measurement focuses on the financial cycle wave movement through the response of bank credit pressures which indicates a decline in wave to the lowest point, with an effect on financial stability pressure and economic growth. This pressure is moving in a negative area, which indicates a wave of financial cycle turbulence that is less effective on the economy. This concept can be described in Equation 9 $\beta_{min} = \Sigma \left(\zeta + \xi + \zeta\right)_{\alpha < 0.01}$ (9)

Equations 1 to Equation 9 describe the balance between the wave movement of bank credit and the financial cycle under normal pressure (not influenced by other indicators), the balance level of the wave will be shown in the following equation, $(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha>0.01} = \Sigma (\zeta + \xi + \zeta)_{\alpha>0.01}$ (10)

Equation 10 shows a balance, where maximum banking credit pressure has a positive influence on the financial cycle, as seen through the pressure reaction that moves in balance and is in line with the bank credit pressure and movement. This measurement was carried out on both waves of banking credit and the financial cycle in the positive area.

$$(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{0.01 > \alpha < 0.01} = \Sigma (\zeta + \xi + \zeta)_{0.01 > \alpha < 0.01}$$

$$(11)$$

Equation 11 describes the shape, direction, and pressure of bank credit wave and the financial cycle in a stable condition, this concept indicates that the lending rate to the pace of financial cycle movement is responded to through the same pressure. This equation shows that the credit provided size by banks will drive financial activity in a neutral zone and will not have a negative impact on financial stability and economic growth. $(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha < 0.01} = \Sigma (\zeta + \xi + \zeta)_{\alpha < 0.01}$ (12)

Equation 12 shows the activity at a critical point of bank credit which makes the financial cycle waves respond positively to any given pressure. This equation indicates the existence of financial activity that moves not follow economic policies that affect the development and growth of the economy. Through the movement of the banking credit wave with the financial cycle wave, the dilemma size refers to the Ed Waves Index model development, then the dilemma occurs when there is a change in pressure in one wave that is not responded well by another wave.

The financial imbalance occurs because there is maximum pressure on one wave and another wave responds in the opposite direction, this indicates a breakdown in the financial system through the financial system movement. The dilemmatic pressure on this indicator wave is divided into several types of measurements.

1. The Mild Category

This measurement is carried out when the wave pressure of bank credit moves very dominantly compared to the response of the financial cycle wave. The credit movement moves higher, while the financial cycle wave still responds to changes in credit pressure through normal movements. This is described in Equation 13. $(\Sigma \zeta + \Sigma \xi + \Sigma \varsigma)_{\alpha>0.01} = \Sigma (\zeta + \xi + \varsigma)_{0.01 > \alpha < 0.01}$ (13)

2. The Moderate Category

This 2 illustrates that the financial credit wave is not responded well or is responded slowly by the pressure of the financial cycle wave pressure, causing the waves to move opposite each other as illustrated in Equation 14.

$$(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha > 0.01} = \Sigma (\zeta + \xi + \zeta)_{\alpha < -0.01}$$
(14)

3. The Heavy Category

This measurement is different from the previous situation. The banking credit wave behavior is stable and the financial cycle wave responds to the maximum, the wave experiences a shift in the balance between pressure and each wave response as explained in Equation 15.

$$(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{0.01 > \alpha < 0.01} = \Sigma (\zeta + \xi + \zeta)_{\alpha > 0.01}$$
(15)

4. The Moderately Heavy Category

This dilemma shows that there is a delay in the relationship between the wave of banking credit and the wave of the financial cycle, making the waves move in parallel, the delay process occurs in both waves. It can be described in Equation 16. $(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{0.01>\alpha<-0.01} = \Sigma (\zeta + \xi + \zeta)_{\alpha<-0.01}$ (16)

5. The Very Heavy Category

This dilemma is characterized by maximum attachment, through changes in the bank credit wave which move under strong negative pressure, but the response of financial cycle wave is shown by maximum movement and becomes a controversial pressure between credit wave and financial cycle wave, the situation is shown by Equation 17. $(\Sigma \zeta + \Sigma \xi + \Sigma \varsigma)_{\alpha < 0.01} = \Sigma (\zeta + \xi + \varsigma)_{\alpha > 0.01}$ (17)

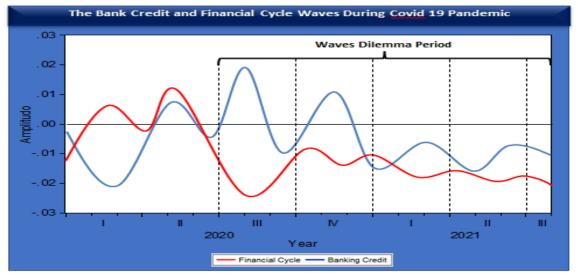
6. The Extraordinary Category

The measurement was carried out because the banking credit wave pressure was in a negative area, and was responded by the financial cycle wave with normal pressure, this dilemma resulted in the banking credit wave pressure not affecting the financial cycle behavior, this condition of bank credit did not have a negative impact on the economy. It can be translated in Equation 18.

$$(\Sigma \zeta + \Sigma \xi + \Sigma \zeta)_{\alpha < 0.01} = \Sigma (\zeta + \xi + \zeta)_{0.01 > \alpha < 0.01}$$
(18)

Results

The waves of bank credit and the financial cycle fluctuated with different pressures during the Covid-19 pandemic. The wave movement occurs through intensity and patterns with different forms of pressure and response during the Covid-19 Pandemic period and until now. The close relationship between the banking credit wave and the



financial cycle pressures is presented in Figure 1 and Table 1.

Figure 1. Bank Credit to the Financial Cycle During the Covid-19 Pandemic in Indonesia

The Covid-19 Pandemic caused the overall economy to slow and become more erratic, putting a tremendous amount of pressure on financial and business activities. These alterations turn credit waves and financial cycles into waves that move freely through negative and unpredictable areas. The uncertainty in the wave movement becomes a dilemma for banks and the Central Bank as the financial sector is difficult to make decisions on the symptoms of declining banking health levels based on the pressure severity from the two waves interaction. Free moving pressure is measured through wave rhythms as pressures that affect financial activity during the Covid-19 Pandemic as described in Table 1.

Period	α	β	Dilemma	Correlation
Ι	+ 0.020 A	- 0.027 A	Moderate	Weak
II	+ 0.010 A	- 0.014 A	Mild	Normal
III	- 0.005 A	- 0.019 A	Heavy	Strong
IV	- 0.007 A	- 0.020 A	Heavy	Strong
V	- 0.011 A	- 0.021 A	Very Heavy	Very Strong

Table 1. The Pressure of the Wayse of Park Credit and Einspeiel Cycle in Inden

The pressure from credit behavior on the financial cycle occurs because the relationship between the two waves experiences different pressures, this change appears in each period as in the first period, where the wave pressure shows that lending is at the highest level (α = 0.020 A), when the economic capacity is sluggish due to the Covid-19 Pandemic, then the pressure loosens because there is a time difference between the credit pressure speed and the financial cycle response ($\beta = -0.027$ A). This model is classified as a moderate category with weak correlation.

In the second period, the pressure on bank credit improved through a safe level of lending ($\alpha = 0.010$ A). This was balanced by a wave response to the financial cycle ($\beta = -$

0.014 A) in the wave pressure form with a regular pattern and stable movement. This belongs to the mild category with normal relationship implications.

The third period shows that the behavior of banking credit activities experienced significant pressure ($\alpha = -0.005$ A) due to damage indications to the banking system and the financial system in general, the depth of pressure which was responded by the financial cycle wave experienced a strong contraction ($\beta = -0.019$ A). It is classified as a heavy category with a strong relationship implication.

In the fourth period, the bank credit wave development became less concentrated, and the response to credit movements increased in a short time and decreased again ($\alpha = -0.007$ A) due to the large pressure in the previous period. The concept of credit behavior saturation made financial activities carry out adaptation through a positive response to the financial cycle wave ($\beta = -0.020$ A) quickly, based on the same pattern and pressure. This pressure belongs to the heavy category with a strong level of relationship attachment.

In the fifth period, the movement of the bank credit wave deepened, with the movement intensity towards an acute depression ($\alpha = -0.011$ A). This pressure depth was largely influenced by the severity of the pressure relationship that occurred in the previous period, making it difficult for the financial cycle wave activity to shift to the next period. the movement limitations of the financial cycle tend to be in the negative area with a fairly deep level of significance ($\beta = -0.021$ A), this period is included in a very heavy category dilemma, and the relationship is classified as very strong.

Overall, Figure 1 and Table 1 indicate that the banking credit dilemma picture through the wave pressure that occurred during the Covid-19 Pandemic in Indonesia was categorized into four types of dilemmas, including the moderate, the mild, the heavy, and the very heavy category dilemma, which show a close relationship through a continuous pattern between bank credit pressures and the wave of financial cycles in Indonesia during the Covid-19 pandemic.

Discussion

The main force behind financial stability and economic growth is bank credit, which has an effect on the financial cycle. The quality of the loan portfolio and bank profitability were negatively correlated with unfavorable economic conditions, which led to credit losses and increased bank provisions (Naser, 2019). This study has examined that, first, during the Covid-19 pandemic in Indonesia, there was a significant correlation between financial activity (bank credit) and the rate of economic growth (financial cycle). Hence, the assumption in this research is acceptable. Due to the Covid-19 pandemic pressure, which abruptly changed the overall financial behavior of both the banking sector and the business sector, the distribution Credit experienced a shock, which caused the growing movement to start slowing down (Claessens et al., 2012).

The movement toward bank lending has a positive and significant response to economic growth with very heavy pressure in several periods (identification from three periods correlation identified as heavy to very heavy pressures). The results of this study confirm the previous research conducted by Basmar et al. (2022) that the dilemma in banking credit distribution is increasing compared to when the economic conditions were normal, causing the banking intermediary function to be unable to run optimally through the declining deposits and lending process. This downward reaction affects financial activity on economic growth (financial cycle) because the amount in circulation is getting

less, the reaction to a reduction in the money supply is of particular concern to Bank Indonesia, through monetary policy of lowering interest rates will stimulate normal financial circulation. In line with the Bank Indonesia regulations, the banking sector has again disbursed credit amid the difficult pressures in obtaining large deposits. This is because more bank loans are viewed as having a favorable effect on economic growth (Awad & Karaki, 2019).

The financial shock in the banking sector significantly affects the bank soundness. Bourkhis and Nabi (2013) describe that a financial crisis has an impact on banking soundness. Credit, inflation, and real GDP growth are all adversely and significantly impacted by an increase in non-performing loans (Klein, 2013). A large amount of credit disbursement in the past had an effect on increasing Non-Performing Loans, due to the debtor's inability to repay their loans, the government's statement to continue to carry out activities at home during the pandemic puts pressure on the banking sector which is experiencing sluggishness from debtor credit installments. On the other hand, banks must continue to survive with increasingly fragile conditions due to the large costs that must be borne by banks for the increase in non-performing loans.

The bank credit in this study cannot be separated from the Bank Indonesia rules in maintaining banking soundness. When banking pressures are getting heavier, banks still have to disburse credit with the aim that financial activities can support economic activity (financial cycle), but on the other hand, banks must hold back lending to prevent Non-Performing Loans from increasing which results in high costs for the risk of the bad loan during Covid-19 Pandemic. Banks still provide credit to ensure community welfare. This is confirmed by Roy et al (2021) that credit has a significant favorable effect on poverty alleviation.

Second, this study also shows the lending effect on the business sector (Chen et al., 2022). The banking sector pressure has an effect on the business sector financial circulation, the business sector uncertainty is a complement to the economic growth process during the Covid-19 Pandemic, this pressure is explained by a significant decrease in income in the business sector, on the other hand, production prices are increasing, therefore business people need large capital to maintain their company's operations. The increasing capital process can only be obtained through the banking sector, but it cannot be resolved properly, because both sectors are under equal pressure. Economically, the exporters' behavior using the exchange rate had many effects on the banking industry and economic growth after the economic growth (financial cycle) experienced an acute depression.

The deep pressure on the financial cycle extends to other sectors, in line with the demand large level of money during the Covid-19 Pandemic in Indonesia. Although the need for money in the business sector is growing to maintain business operations and spur growth, this condition is out of proportion with the money supply, which causes a great deal of sluggishness in the business sector in generating profits and making it difficult to pay back loans. The banking sector also established the prudence principle in lending to all business sector. To overcome uncertainty, the business sector must be supported by capital and income as the main basis for business operations. Capital is increasing when the Covid-19 pandemic pressure continues. The close relationship between economic growth and business activities must be supported by strong financial activities through the

banking sector, while financial stability has a close relationship with banking sector activities through monetary policy, especially on macroeconomic and microeconomic activities which are elements that influence the financial cycle movement during the Covid-19 Pandemic.

Third, the financial dilemma level in the banking sector and the business sector has become a concern of Bank Indonesia. The prolonged effect of this results in an acute stimulus to financial activity in the economy, resulting in a financial depression that will lead to a financial crisis. This pressure impact resulted in quite large losses that were borne over a long time as a correcting process of the financial system pressures. The banking credit dilemma is very risky, financial instability begins with a weakening growth rate from time to time, the consistency of this decline has a multiplier effect on various macroeconomic elements, indirectly increasing the burden on Bank Indonesia in controlling the movement and pressure on financial activities as a whole.

The effects spread of the banking credit dilemma can be measured through the monetary policy function (Rey, 2015), particularly the credit channel and the interest rate channel. In line with Bank Indonesia's goals and objectives to increase growth and maintain financial stability, conditions are becoming increasingly difficult because to achieve the target one must use monetary policy instruments in the credit channel and interest rates, on the other hand, monetary policy is not effective in achieving growth without using other monetary instruments such as inflation and exchange rates.

The banking credit crisis has impacted financial activity and economic growth in a snowball effect. To break the heavy chain pressure, various measures are taken, such as lending under the precautionary principle to reduce non-performing loans because it affects the bank soundness through high costs and lowering banking capital, or banks resolve non-performing loans by selling debtor assets to overcome banking cost pressures. In addition to providing debtors with relief from installment payments, banking also reduces interest rates to enable the business sector to operate. Despite economic uncertainties due to the pandemic (Abdelkafi et al., 2022; Altig et al., 2020; Choi, 2020), in some ways, financial activity affects the rate of economic growth during the Covid-19 pandemic by preventing potential bad loans or the closure of business operations.

In addition to restructuring debtors' finances and tightening banking soundness, Bank Indonesia's efforts to revive financial activities serve as a foundation for preventing financial pressure from having a systemic impact on other sectors. Other efforts include controlling macroeconomic elements because they more or less affect financial stability and economic growth, and macroeconomic indicators are a single unit that can affect the growth rate of credit distribution.

Conclusion

The bank credit dilemma manifests itself in Periods 3 through 5 with escalating press ure, in line with the financial balance theory. Under pressure, the prudence concept in the distribution of bank credit prevents the supply of money from anticipating the high demand for money. In light of this circumstance, Bank Indonesia has focused on preserving financial stability and economic growth in Indonesia during the Covid-19 Pandemic. Using the Ed Waves Index development model, this study examines the banking credit conundrum against the financial cycle during the Covid-19 Pandemic. The findings of this study show a significant relationship between financial activity and Indonesia's concept of an Islamic economy. Financial stress on financial activity wave with serious depression in the Indonesian economy is a result of pressure on Islamic Banking's financial movement.

Authors' Declaration

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation, and discussion of results. The authors read and approved the final manuscript.

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References

- Abdelkafi, I., Loukil, S., & Romdhane, Y. (2022). Economic uncertainty during COVID-19 pandemic in Latin America and Asia. *Journal of the Knowledge Economy*, 1-20. https://doi.org/10.1007/s13132-021-00889-5
- Abuka, C., Alinda, R. K., Minoiu, M. C., Peydró, J. L., & Presbitero, A. (2015). Monetary policy in a developing country: loan applications and real effects. *International Monetary Fund*. https://www.imf.org/external/pubs/ft/wp/2015/wp15270.pdf
- Agénor, P.R., & Pereira da Silva, L. A. (2013). Inflation targeting and financial stability: A perspective from the developing world. *Working Paper Series*, 324(September), 1–116. http://www.bc.gov.br/pec/wps/ingl/wps324.pdf
- Ajello, A. (2016). Financial intermediation, investment dynamics, and business cycle fluctuations. *American Economic Review*, 106(8), 2256–2303. https://doi.org/10.1257/aer.20120079
- Albulescu, C. T., Goyeau, D., & Pépin, D. (2013). Financial instability and ECB monetary policy. *Economics Bulletin*, 33(1), 388–400. https://www.researchgate.net/publication/235632884_Financial_instability_and_ECB __monetary_policy
- Altig, D., Baker, S., Barrero, J. M., Bloom, N., Bunn, P., Chen, S., ... & Thwaites, G. (2020). Economic uncertainty before and during the COVID-19 pandemic. *Journal of Public Economics*, 191, 104274. https://doi.org/10.1016%2Fj.jpubeco.2020.104274
- Awad, I. M., & Al Karaki, M. S. (2019). The impact of bank lending on Palestine economic growth: an econometric analysis of time series data. *Financial Innovation*, 5(1), 1-21. https://doi.org/10.1186/s40854-019-0130-8
- Bank Indonesia. (2019). Penguatan Intermediasi di tengah ketidakpastian ekonomi global. Departemen Kebijakan Makroprudensial. https://www.bi.go.id/id/edukasi/Documents/Mengupas-Kebijakan-Makroprudensial.pdf
- Basmar, E., Campbell III, C., & Basmar, E. (2019, March). The effect of interest rates on the financial cycle in Indonesia. In *First International Conference on Materials Engineering* and Management-Management Section (ICMEMm 2018) (pp. 7-10). Atlantis Press. https://dx.doi.org/10.2991/icmemm-18.2019.2

- Basmar, E., Campbell-III, C. M., Basmar, E., & Suhendra, S. (2022). The climate changes in banking credit to the financial cycle during the Covid-19 Pandemic in Indonesia. Jurnal Manajemen Bisnis, 9(1), 173-182. https://doi.org/10.56750/jmb.v9i1.76
- Basmar, E., Muhammad, Y. Z., & Marsuki, A. H. (2017). Do the bank credit cause the financial crisis in Indonesia. *Scientific Research Journal*, *5*, 36-38. http://www.scirj.org/papers-1017/scirj-P1017446.pdf
- Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). The financial accelerator in a quantitative business cycle framework. *Handbook of macroeconomics*, 1, 1341-1393. https://doi.org/10.1016/S1574-0048(99)10034-X
- Borio, C. (2012). The financial cycle and macroeconomics: What have we learnt? BIS Working Papers No 395. ISSN 1682-7678 (online). *BIS Working Papers*, 395. https://www.bis.org/publ/work395.pdf
- Bourkhis, K., & Nabi, M. S. (2013). Islamic and conventional banks' soundness during the 2007–2008 financial crisis. *Review of Financial economics*, 22(2), 68-77. https://www.sciencedirect.com/science/article/pii/S1058330013000177
- Caldara, D., Fuentes-Albero, C., Gilchrist, S., & Zakrajsek, E. (2016). The Macroeconomic Impact of Financial and Uncertainty Shocks. *International Finance Discussion Paper*, 2016(1166), 1–41. https://doi.org/10.17016/ifdp.2016.1166
- Céspedes, L. F., Chang, R., & Velasco, A. (2013). Dollarization of Liabilities, Net Worth Effects, and Optimal Monetary Policy. In *Preventing Currency Crises in Emerging Markets* (Issue January). https://doi.org/10.7208/chicago/9780226185057.003.0013
- Chen, Q., Filardo, A., He, D., & Zhu, F. (2015). Financial crisis, US Unconventional monetary policy and international spillovers. In *IMF Working Papers* (Vol. 15, Issue 85). https://doi.org/10.5089/9781475520668.001
- Chen, T., Huang, Y., Lin, C., & Sheng, Z. (2022). Finance and firm volatility: Evidence from small business lending in China. *Management Science*, 68(3), 2226-2249. https://doi.org/10.1287/mnsc.2020.3942
- Choi, S. Y. (2020). Industry volatility and economic uncertainty due to the COVID-19 pandemic: Evidence from wavelet coherence analysis. *Finance Research Letters*, 37, 101783. https://doi.org/10.1016/j.frl.2020.101783
- Claessens, S., Kose, M. A., & Terrones, M. E. (2012). How do business and financial cycles interact?. *Journal of International economics*, *87*(1), 178-190. http://dx.doi.org/10.1016/j.jinteco.2011.11.008
- Dell'Ariccia, G., Kadyrzhanova, D., Minoiu, C., & Ratnovski, L. (2021). Bank lending in the knowledge economy. *The Review of Financial Studies*, 34(10), 5036-5076. https://academic.oup.com/rfs/article/34/10/5036/6055563
- El Karfi, K., & Mentagui, D. (2020). Monetary policy and financial stability. *Journal of Advanced Research in Dynamical and Control Systems*, 12(5 Special Issue), 1453–1459. https://doi.org/10.5373/JARDCS/V12SP5/20201905
- Erdem, M., & Tsatsaronis, K. (2013). Financial conditions and economic activity: a statistical approach. *BIS Quarterly Review, March,* 37–51. https://www.bis.org/publ/qtrpdf/r_qt1303f.htm
- Gaies, B., & Nabi, M. S. (2021). Banking crises and economic growth in developing countries: Why privileging foreign direct investment over external debt?. *Bulletin of Economic Research*, 73(4), 736-761. http://dx.doi.org/10.1111/boer.12271

- Hafstead, M., & Smith, J. (2012). Financial shocks, bank intermediation, and monetary policy in a DSGE model. *Unpublished Manucript*, *9*, 1-77. http://www.rff.org/Documents/HafsteadSmith_September2012.pdf
- Harun, C. A., Taruna, A. A., Nattan, R. R., & Surjaningsih, N. (2014). Financial cycle of Indonesia – Potential forward looking. *BI Working Paper*, 9, 1–44. http://publicationbi.org/repec/idn/wpaper/WP092014.pdf
- Huljak, I., Martin, R., Moccero, D., & Pancaro, C. (2022). Do non-performing loans matter for bank lending and the business cycle in euro area countries?. *Journal of Applied Economics*, 25(1), 1050-1080. http://publication-bi.org/repec/idn/wpaper/WP092014.pdf
- Jermann, U., & Quadrini, V. (2012). Macroeconomic effects of financial shocks. *American Economic Review*, 102(1), 238–271. https://doi.org/10.1257/aer.102.1.238
- Khan, M. S., Khan, I., Bhabha, J. I., Qureshi, Q. A., & Khan, N. A. Q. R. (2015). The role of financial institutions and the economic growth: A literature review. *Indicator*, 7(1), 95-98.

https://www.researchgate.net/publication/313768601_The_Role_of_Financial_institut ions_and_the_Economic_Growth_A_Literature_Review

- Klein, N. (2013). Non-performing loans in CESEE: Determinants and impact on macroeconomic performance. International Monetary Fund. https://www.imf.org/external/pubs/ft/wp/2013/wp1372.pdf
- Kydland, F., & Prescott, E. (1990). Business cycles: Real facts and a monetary myth. *Quarterly Review*, 14(Spr), 3-18. https://doi.org/10.1080/000368499323201
- Ma, Y., & Zhang, J. (2016). Financial cycle, business cycle and monetary policy: Evidence from four major economies. *International Journal of Finance and Economics*, 21(4), 502– 527. https://doi.org/10.1002/ijfe.1566
- Magdalena, A., Marpaung, B. S., & Indira, E. M. (2019). The effects of bank funds sources on bank profitability in Indonesian Stock Exchange. *Riset: Jurnal Aplikasi Ekonomi Akuntansi dan Bisnis*, 1(2), 090-098. https://doi.org/10.35212/riset.v1i2.23

Munthe, Risma & Nugraha, Nur Arif & Basmar, Edwin & Syafii, Ahmad & Pardede, Anita & Verlandes, Yuliasnita & Sudarmanto, Eko & Sn, Arfandi & Rahman, Abdul & Damanik, Darwin & Purba, Bonaraja & Penerbit, Hasyim & Menulis, Yayasan. (2021). Sistem Perekonomian Indonesia. https://www.researchgate.net/publication/354048321_Sistem_Perekonomian_Indone s

- parad, N. (2019). The Interaction between Profitability and Macroeconomic Factors for Future Examinations of European Banks Soundness – Theoretical Study. Financial Markets, Institutions and Risks, 3(3), 63-97. http://doi.org/10.21272/fmir.3(3). 63-97.2019
- Paradiso, A., Kumar, S., & Rao, B. B. (2013). A New Keynesian IS curve for Australia: Is it forward looking or backward looking? *Applied Economics*, 45(26), 3691–3700. https://doi.org/10.1080/00036846.2012.718068
- Rafique, A., Quddoos, M. U., Ali, S., Aslam, F., & Ahmad, M. (2021). Monetary policy transmission: Balance sheet channel and investment behavior of firms in Pakistan. *Economic Journal of Emerging Markets*, 13(1), 1–12. https://doi.org/10.20885/ejem.vol13.iss1.art1

- Rahmadana M.F., et al (2021), Sejarah Pemikiran Ekonomi : Pemikiran dan Perkembangan. Yayasan Kita Menulis, Medan, pp 111 – 123. https://kitamenulis.id/2021/04/27/sejarah-pemikiran-ekonomi-pemikiran-danperkembangan
- Rey, H. (2015). *Dilemma not trilemma: The global financial cycle and monetary policy independence* (No. w21162). National Bureau of Economic Research. https://doi.org/10.3386/w21162
- Roy, T., Hossain, M., Jalal, M., Ebn, J., Saha, J. K., Sharmin, E., & Khan, M. (2021). Effects of credit on national and agricultural GDP, and poverty: a developing country perspective. SN Business & Economics, 1(10), 1-20. https://doi.org/10.1007/s43546-021-00146-6
- Sebayang, P. (2020). The impact of the capital adequacy ratio, non-performing loan against to return on equity (Case study private Bank in Indonesia). In SHS Web of Conferences (Vol. 76, p. 01035). EDP Sciences. https://doi.org/10.1051/shsconf/20207601035
- Soeikromo, D., Roeroe, S., & Rumokoy, N. K. (2020, January). Analysis of the causes of problemed home loan and alternative solutions for development of national banking performance. In *International Conference on Business, Economic, Social Science, and Humanities–Humanities and Social Sciences Track (ICOBEST-HSS 2019)* (pp. 60-63). Atlantis Press. http://dx.doi.org/10.2991/assehr.k.200108.013
- Sudarmanto E., et al (2021), Manajemen Risiko Perbankan. Yayasan Kita Menulis, Medan, pp 49 74. https://kitamenulis.id/2020/10/03/manajemen-risiko-perusahaan/
- Sudarmanto E., Fastabiqul K., Darwin D., Elidawaty P., Adat M. P., Arfandi S.N., Bonaraja P., Edwin B., Eva S., Astuti., (2021a), Pasar Uang dan Pasar Modal, Yayasan Kita Menulis, Medan, pp 87 – 98. https://kitamenulis.id/2021/09/15/pasar-uang-dan-pasarmodal/
- Wahyudi, S. T., Nabella, R. S., & Badriyah, N. (2019). Analisis pengaruh siklus keuangan terhadap stabilitas sistem keuangan di Indonesia. *Jurnal Ekonomi Dan Bisnis*, 20(2), 87. https://doi.org/10.30659/ekobis.20.2.87-95