

Banks Amid Economic Recovery: Understanding Macroeconomic Influences, Firm Valuation, and the Investor Confidence Paradox

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Abstract

This study investigates the intriguing relationship between a robust macroeconomic environment during economic recovery and the signaling of increased firm value within the banking sector. It underscores the importance of macroeconomic factors in investors' evaluation of banking firms and examines the rationale behind investors not exhibiting strong reactions to favorable macroeconomic signals. Utilizing an explanatory research method, the study analyzes secondary data from financial reports of 42 companies listed on the Indonesia Stock Exchange during 2010-2020. A panel data regression approach is employed, incorporating common effect, fixed effect, and random effect models, validated through Chow, Hausman, and Lagrange Multiplier (LM) tests. Resulting insights explain the paradoxical absence of a robust investor response despite banks' resilience amid the economic turmoil. The theoretical implication is that a stable macroeconomic environment typically projects positive signals for the banking sector, enhancing investor confidence and potentially driving up share prices. The study reveals substantial practical implications concerning the macroeconomic influences on firm value signals in the banking industry during economic recovery. Banks are advised to recalibrate their strategies and operations to capitalize on or navigate the risks associated with recovery periods.

Keywords: Firm Value, Signals, Interest rate, IDX index, Return on Assets, Non-performing Loan, Banking industry

Introduction

Investment risk calculation is a complex process, involving a multitude of economic and non-economic considerations. Consequently, the importance of risk management studies becomes monumental for investors' decision-making processes. As the field evolved from traditional risk management (TRM) to a more strategic perspective that portrays the valor of a company comprehensively, the need for extensive risk management understandings becomes increasingly recognized (Bohert et al., 2017; da Silva et al., 2018; Iswajuni et al., 2018; Peng et al., 2020; Phan et al., 2020). Various forms of risk, such as solvency, liquidity, and operational risks, alongside interconnectedness and systemic risks, are considered vital in investment planning, particularly within the banking industry (Gondwe et al., 2023; Al Rahahleh et al., 2019; Sleimi, 2020; Qi et al., 2021).

Against the backdrop of the COVID-19 pandemic and during periods of economic recuperation, robust Macroeconomics can signal boosted firm values in the banking sector. Despite Indonesia boasting a relatively stable economy and satisfactory banking performance during COVID-19, these elements have not ushered in remarkable appeal for banking investors (Seker et al., 2023). The banking industry plays a pivotal intermediary role in supporting government efforts towards economic recovery (Bank Indonesia, 2022), and logically, the prosperity of the banking performance should attract investments (Ali et al., 2022; Gao et al., 2021).

However, Indonesia's banking industry lags in competitiveness against its ASEAN counterparts (Yusgiantoro et al., 2019). This study aims to probe this multifaceted puzzle, critically examining the interplay between dynamic macroeconomics, performance, and firm value signals in the banking industry during economic recovery, making it essential for investors, policymakers, and stakeholders in banking and finance. By doing so, this research seeks to shed light on these intricate relations and provide robust insights into potentially boosting investor attraction in the banking domain, particularly in regions like Indonesia.

While the Indonesian banking industry appears appealing to local investors, it falls short in engaging international shareholders' interests (World Bank, 2022). Despite promising investment perspectives amidst global recession and economic rejuvenation echoed in banking data on IDX (2020), the allure for domestic investors remains lacking. This mismatch is predominantly driven by the inadequate appraisal of a bank's firm value (Tian & Wu, 2022).

Studies indicate that the perception of firm value extends beyond mere financial proficiencies. Factors such as environmental consciousness, ethical corporate responsibility, and non-financial internal structures have gained recognition as influencers impacting a company's value (Behl et al., 2022; Velte, 2021; Abdi et al., 2021). In an entrepreneurial landscape which magnifies the importance of environmental, social, and governance (ESG) factors in firm value prediction (Fuadah et al., 2022), it becomes apparent that the estimation of firm value is a multifaceted process.

Yet, within the Indonesian context, the firm value perception remains intricately connected to financial performance, particularly during economic resurgence. Despite the resilience of financial performance amidst macroeconomic turbulence, its value proposition as a robust investment signal has not been well-utilized. This disconnection persists despite insistent legal regulations regarding corporate ethical obligations such as education, environment, and health (Ramdhan et al., 2022).

Several studies underscore the influence of macroeconomic conditions on firm value. Economic instability tends to deplete firm values, as witnessed during the 2019 pandemic (Qiu et al., 2021), with increased rates of interest and weakening Composite Stock Price Index (Qiu et al., 2021). Conversely, low rates of interest can enhance company value (Alam & Uddin, 2009; Iqmal & Son, 2020; Ali et al., 2022) and investor appeal.

However, not all research concludes a direct impact of macroeconomic factors on firm value (Almas et al., 2021; Isnurhadi et al., 2018; Pangestuti & Tindangen, 2020). Such discrepancies highlight the need for a deeper investigation into macroeconomic implications, particularly amidst unexpected circumstances like pandemics, in relation to firm value. According to Brigham & Houston (2001), Gao et al. (2021), and Bernini et al. (2022), signals based on weak firm value can deter investment decisions, signifying the need to refine the understanding of firm value and its signaling to investors. The study aims to populate this knowledge lacuna and reconcile discrepant perspectives.

Expanding upon the existent body of research, this study offers a comprehensive and sophisticated exploration of the interplay between macroeconomic conditions, epitomized by interest rates and the Composite Stock Price Index (JCI), banking performance as indicated by the Return on Assets (ROA) and Non-Performing Loans (NPL), and the value proposition of firms. This examination probes whether the potential mismatch in banking firm valuation can be mitigated by incorporating a more holistic understanding of these factors. Simultaneously, it strives to offer more informative economic signals to guide investors' decisions. In so doing, it contributes to the broader discourse on the relationship between macroeconomics, financial performance, and firm value within the banking industry, especially during periods of economic revitalization.

Literature Review

Macroeconomic Factors and their Impact on Firm Value

Macroeconomics comprehensively explores the realm of economic behaviour, taking into account the interconnected dynamics of fiscal and monetary policies endorsed by governments and central banking institutions. By considering the economy as an integrated system, macroeconomic research probes into the intricate interactions between a diverse range of elements and their consequential influence on total economic well-being (S. Ahmed et al., 2021; Anita et al., 2022).

In addition, the interest rates, pivotal components of macroeconomic indicators, are shaped by monetary policy decisions enacted by respective financial authorities (Foglia, 2022; Magdalinos & Tsakalos, 2021). Concurrently, vital macroeconomic elements such as GDP, unemployment, inflation, and interest rates carry significant clout in the determination of credit risks intrinsic to a bank's loan portfolio. Additionally, stock prices, particularly the Jakarta Composite Index (JCI), have been identified as crucial variables within the macroeconomic ambit. Research by Fallanca et al. (2021) recognized the JCI as instrumental in understanding the Indonesian financial market, with potent implications for company valuation.

These macroeconomic factors, in their interlaced capacity, offer valuable insights into the evaluation processes and decision-making across diverse financial contexts, the banking sector included. Notably, there is a growing body of literature underlining the direct and indirect impacts of these macroeconomic elements, especially interest rates and the JCI, on firm value, endorsing their role as potent signals of a firm's economic viability under dynamic macroeconomic conditions.

Return on Assets

Return on Assets (ROA), a financial ratio emblematic of profitability, is one critical parameter utilized for gauging a firm's earnings generation potential and its sustainability (Sutrisno & Widarjono, 2022). As an important benchmark of banking outcomes (R. Ahmed & Bhuyan, 2020; Arifin, 2017; Ok et al., 2019; Sohieben et al., 2022; Souza de Souza et al., 2022), it is computed via net income divided by overall assets. An upward trend in ROA signals an organization's adeptness in profit creation through effective asset management. In the context of profitability, ROA acts as a tertiary measure (Katusiime, 2021), where a mounting ROA typifies a firm's augmented productivity of assets, an indication of fruitful profitability. But a comprehensive insight into a company's profitability isn't achieved solely via the ROA, since it doesn't incorporate key variables such as liabilities, taxes, and income from non-core operations. Investors need to treat ROA as part of a broader financial narrative, supplementing this with additional metrics to capture all aspects of an enterprise's profitability. This could involve a thorough evaluation of the organization's financial stability and health, employing measures like liquidity, debt levels, and cash flow to form a complete picture.

Non-Performing Loan

The delineation of Non-Performing Loan (NPL) may oscillate across financial institutions and nations, but generally, a loan that remains unpaid beyond a predetermined duration, conventionally extending to 90 days or beyond, is earmarked as an NPL. NPL is widely adopted as a financial marker for quantifying the credit quality of bank loan portfolios (S. Ahmed et al., 2021; M. Fallanca et al., 2021; Karadima & Louri, 2021). Credit risk—the possible loss to the lender or investor in the event of the borrower defaulting on their loan repayment or contractual fulfillment—is commonly assessed by the fraction of defaulted loans within a pre-empted term. This aids in measuring credit quality and evaluating a bank's loan portfolio's credit risk (Epure & Lafuente, 2015; Nyarko-Baasi, 2018).

NPLs are generally categorized as bad loans due to their heightened credit risk relative to performant loans. The scrutiny of NPL levels is crucial in the effective management of credit risk because it provides a snapshot of a bank's loan portfolio quality, thereby spotlighting issues that might require intensified focus and resource allocation. Non-performing loans (NPLs) embody financial assets comprised of loans in default or approaching default, leading borrowers to give up the compulsory payments of principal and interest to banks (Anita et al., 2022). According to Lee et al. (2020), NPL can be quantified as the ratio of loans that have failed to meet their payment obligations regarding principal and interest over a specific period to the aggregate value of loans.

Firm Value

Firm value, also referred to as the market value of a company, represents the business's total value as perceived by the market. Endri and Fathony (2020) describe the value of a company as the present value of a series of future cash inflows based on the company's prospective productivity. In the view of Triani and Tarmidi (2019), company value forms the basis for making investment decisions for investors, acting as a reflection of investor reactions in the share market. Tobin's Q, calculated by adding the market value of common and preferred stock and the book value of liabilities, and then dividing by the book value of assets, is a commonly used ratio for measuring company value (Bayer et al., 2020; Fuadah et al., 2022; Gao & Han, 2022; Ibrahim & Isiaka, 2020; Wong et al., 2021). Tobin's Q accounts for both tangible and intangible assets, emphasizing a company's effectiveness and efficiency in utilizing its resources Dw (Dong et al., 2022; Jardak & Ben Hamad, 2022; Maswadeh, 2021; Mehzabin et al., 2023).

Based on the reviewed literature, this comprehensive review establishes the importance of ROA as a profitability indicator, NPL as an assessment tool for credit risk, and firm value as a basis for investment decision-making. By incorporating these financial metrics into their analysis, investors can gain an in-depth understanding of a company's financial status, thereby allowing them to make well-informed decisions.

Hypothesis Development

The Impact of Interest Rate on Firm Value

Firm value is significantly influenced by economic conditions, as indicated by interest rates. The central bank's benchmark interest rate plays a crucial role in determining a company's borrowing costs, which can impact its dividend payouts and company valuation for investors (Liu et al., 2020). Particularly within the banking sector, firm valuation is highly sensitive to fluctuations in interest rates, as it affects the valuation of financial assets directly tied to the benchmark interest rate. Empirical evidence suggests that higher interest rates lead to reduced firm valuations (Kuo & Huang, 2022; Maloney & Moskowitz, 2020). Goh et al. (2021) posit that the BI Rate, the central bank's benchmark interest rate, significantly affects the stock market. As interest rates rise, investors may shift their capital to investments deemed safer and more profitable. Consequently, high-interest rates can result in decreased investor interest in company shares, reducing the firm value. Therefore, this study posits the following hypothesis.

H1: Interest rates have a negative effect on firm value.

The Jakarta Composite Index (JCI) as a Comprehensive Representation of the Indonesian Stock Exchange's Impact on Firm Value

The Jakarta Composite Index (JCI) substantiates its significance in the understanding of firm value dynamics as it represents the aggregated performance of individual company stocks listed on the Indonesian stock exchange (IDX). By collectively measuring the economic condition of listed firms, the JCI substantially intersects with their valuation and financial health. Consistently, academic literature asserts that firm value is closely related to a company's stock value, corroborating the notion that the prosperity of a firm's owners and shareholders is inherently linked to its stock value (Brigham & Daves, 2014; Qiu et al., 2021).

In building upon this notion, Mohanasundari (2016) and Suhadak et al. (2019) emphasize that a company's intrinsic value manifests itself effectively in its share price, thus solidifying the connection between stock value and overall firm value. Through this context, the JCI serves as a robust signal in evaluating company value (Juhandi et al., 2019), acting not only as an indicator of stock market performance but also as a crucial determinant of an individual firm's value. Consequently, fluctuations in the JCI mirror corresponding changes in firm value.

Delving into market dynamics, Triani & Tarmidi (2019) outline the significance of dividend payments in enhancing company value. By attracting investor interest and driving up share prices, dividend payments reveal their dual role in rewarding shareholders and maximizing firm value. Further substantiating this intricate relationship, Kim et al. (2021) and Seth & Mahenthiran (2022) argue that share prices are intimately tied to the perception of a company's value, constructing a critical linkage between market behavior and intrinsic value.

However, the depth of dividend policy considerations must not be oversimplified, as Akhmadi & Januarsi (2021) emphasize that dividend policies, while impactful, are contingent on various factors. Beyond these dynamics, an elevation in shareholder wealth universally signifies an advancement in firm value. It is a direct barometer of value increase and prosperity of the firm. Therefore, this study posits that.

H2: Jakarta Composite Index has a positive effect on firm value.

The role of Return on Assets (ROA) on firm value

The role of Return on Assets (ROA) on firm value is prominent in indicating a company's efficient performance and fostering investor perception. Studies by Endri & Fathony (2020), Huang et al. (2020), and Le & Nguyen (2020) emphasize the substantial correlation between ROA and firm value, asserting that heightened profitability, represented by ROA, significantly enhances a company's value and drives shareholder interest. Furthermore, Husna & Satria (2019) and Osborne et al. (2017) indicate that banks with higher profitability, as denoted by an elevated ROA, exude a lower risk profile while generating higher returns. This scenario sends a strong signal to investors about a firm's value. Therefore, the hypothesis posits that.

H3: Return on Assets (ROA) has a positive effect on firm value.

The impact of Non-Performing Loans (NPL) on firm value

Parallel to ROA, the NPL factor paints a murkier picture for investors. When real interest rates are low, companies facing high risks depict a negative image for potential investors (M. G. Fallanca et al., 2020; Mahrous et al., 2020). A surge in NPLs serving as an antecedent to potential banking instability (A. Khan & Qureshi, 2021; Shahriar et al., 2023) acts as a deterrent to investments. High NPLs can signal poor credit quality and, in effect, indicate a threat to the financial health of the bank (Foglia, 2022). As Ali et al. (2022) and Shawtari et al., (2018) suggest, an escalating NPL could also imply inefficiency in the firm. The correlation between the augmented NPL and the reduced firm value, therefore this study posits that.

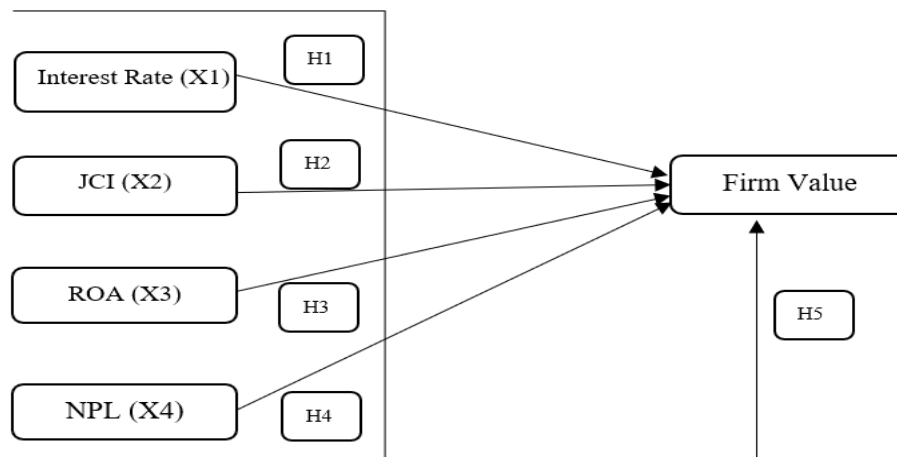
H4: Non-Performing Loans (NPL) have a negative effect on firm value.

Interplay of Interest Rate, JCI, ROA, and NPL in Shaping Firm Value

The Central Bank's benchmark interest rate holds substantial influence over a company's borrowing costs and overall value. Elevated interest rates tend to diminish a company's value, as they result in increased borrowing costs, thus reducing investor interest in acquiring company stock. Concurrently, the Jakarta Composite Index (JCI) epitomizes the performance of company stocks and significantly impacts the value of firms. An increase in stock price corresponds to a rise in company value, whilst a decline in stock price leads to a reduction in value (Husna & Satria, 2019; Kim et al., 2021). In addition, the Return on Assets (ROA) serves as an indicator of a company's profitability and positively affects its value. Greater profitability fosters investor interest, thereby enhancing company value. Conversely, the level of Non-Performing Loans (NPL) reflects the credit risk a company faces, with a heightened NPL signaling potential financial loss and posing a deterrent to potential investors. Thus, the study posits that.

H5: The concurrent effects of the Interest Rate, Jakarta Composite Index (JCI), Return on Assets (ROA), and Non-Performing Loans (NPL) govern the determination of a firm's value.

Conceptual Framework



Method

The study employs an explanatory research design to understand the relationship between several independent variables (e.g., Interest Rate, Jakarta Composite Index, Return on Assets, Non-Performing Loans) and one dependent variable (Firm Value). The analysis is based on 42 banking companies listed on the Indonesia Stock Exchange (IDX) whose financial statements from 2010 to 2020 have been analyzed.

Data collection hinges on secondary sources, including audited annual financial statements and national banking financial reports documentation. Observations and interviews with practitioners from securities company management, IDX management, and issuer company management are conducted bi-monthly to supplement the secondary data.

The data analysis process commences with classical assumption testing, ensuring the validity of assumptions related to normality, multicollinearity, heteroskedasticity, and autocorrelation before any inferential statistical testing is undertaken. After the assumptions have been verified, the analysis progresses to the stage of time series regression. Here, EViews software, a powerful tool for statistical and econometric analysis of time series data, is used to conduct multiple linear regression on the collected data.

Post classical assumption test, the focus shifts to estimating regression models using panel data. This includes the examination of three models: the Common Effect Model, the Fixed Effect Model, and the Random Effect Model. To determine the best fit for the panel data, a range of tests like the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test are employed. The results of these tests aid in the final selection of the model.

Lastly, upon the finalization of the model, a series of classical assumption tests relating to normality, multicollinearity, heteroskedasticity, and autocorrelation are performed to confirm the statistical validity of the chosen model. The model's overall fit and performance are then evaluated using significance tests, such as the F-test, t-test, and R-squared. This comprehensive analysis offers a robust understanding of the study's variables and their relationships.

Findings

The primary focus of this analysis is on the model test results derived from financial statement data ranging from 2016 to 2022. These results give crucial insights into the company's performance and the relationship between variables. The detailed findings reinforce the study's reliability and are elaborated below.

Table 1 Model Test Results

No	Data Testing	Test result (p-value)	Conclusion
1	Chow test	0.084	CEM is better than FEM

2	Hausman Test	0.066	REM is better than FEM
3	Lagrange Multiplier (LM) test	0.095	CEM is better than REM

The Chow test result, with a probability value of 0.084, indicates that the Common Effect Model (CEM) model is superior to the Fixed Effect Model (FEM) model for analysing the dependent variable of 'firm value.' This finding implies that no significant differences exist in firm values between various banks, allowing investors to make investment decisions without needing to differentiate between banks based on government or public ownership.

The Hausman test result substantiates the Random Effect Model (REM) model's effectiveness in explaining the dependent variable's values, outperforming the FE model. Furthermore, the LM test result reveals a p-value greater than 0.05, consequently favoring the Common Effect estimation method as the most suitable approach. This conclusion complements both Chow Test and Hausman Test outcomes, emphasizing the Common Effect Model (CEM) model as the ideal choice among the three potential models.

Table 2 Outcomes of Partial and Simultaneous Hypothesis Testing for the chosen time periods: 2016-2018 (pre-Covid) and 2020-2022 (post-Covid)

No	Description of Independent Variables	R (Pre)	R (Post)	R Square (Pre)	R Square (Post)	t count/ F count (Pre)	t count/ F count (Post)	Sig. (Pre)	Sig. (Post)
1	Interest rate	0.014	0.036	0.00	0.001	-0.153	0.395	0.879	0.395
2	JCI	0.013	0.128	0.00	0.016	0.140	-1.39	0.889	0.165
3	ROA	0.281	0.035	0.08	0.01	-3.18	0.384	0.002	0.702
4	NPL	0.162	0.002	0.03	0.002	1.787	-3.41	0.076	0.590
5	Interest rate, JCI, ROA, NPL	0.285	0.256	0.08	0.066	2.536	2.024	0.044	0.064

The following explanation of findings will provide a comprehensive overview of the findings from the hypothesis testing, examining the partial and simultaneous effects of the independent variables on firm value before and after the Covid-19 pandemic. By delving into these results, this study aims to better understand the evolving landscape of firm valuation and the changing interplay between key determinants during these critical time periods.

H1: Interest rates have a negative effect on firm value.

In the pre-Covid period (2016-2018), the effect of interest rates on firm value was statistically insignificant (Sig. = 0.879). However, in the post-Covid period (2020-2022), interest rates show a more substantial effect on firm value, with a significance level of 0.395. Although still statistically insignificant, this increase suggests that interest rates might play a more significant role in the post-Covid period.

H2: Jakarta Composite Index (JCI) has a positive effect on firm value.

For the pre-Covid period, JCI's influence on firm value was statistically insignificant (Sig. = 0.889), indicating that it might not play a substantial role during that time. In the post-Covid period, the effect of JCI on firm value becomes more noticeable (Sig. = 0.165), although still statistically insignificant. This change implies that the relationship between JCI and firm value might be stronger in the post-Covid era.

H3: Return on Assets (ROA) has a positive effect on firm value.

The effect of ROA on firm value was statistically significant in the pre-Covid period (Sig. = 0.002), indicating a substantial relationship between ROA and firm value during that time. However, this relationship became

statistically insignificant in the post-Covid period (Sig. = 0.702). This result could suggest that the impact of ROA on firm value has weakened in the post-Covid era, or other factors have become more influential.

H4: Non-Performing Loans (NPL) have a negative effect on firm value.

During the pre-Covid period, the relationship between NPL and firm value was statistically insignificant (Sig. = 0.076). In the post-Covid period, this relationship remained statistically insignificant (Sig. = 0.590). These results suggest that the effect of NPL on firm value has not changed considerably between pre- and post-Covid periods.

H5: The concurrent effects of the Interest Rate, Jakarta Composite Index (JCI), Return on Assets (ROA), and Non-Performing Loans (NPL) govern the determination of a firm's value.

When considering the simultaneous effects of interest rate, JCI, ROA, and NPL on firm value, results show a statistically significant relationship in the pre-Covid period (Sig. = 0.044). However, this relationship becomes statistically insignificant in the post-Covid period (Sig. = 0.064). This result indicates that the combined impact of these factors on firm value has become weaker in the post-Covid era.

In conclusion, the relationships between the examined variables and firm value vary between the pre- and post-Covid periods, with some relationships becoming more noticeable, while others weaken. Although some results are statistically insignificant, it does not completely discredit the influence of these variables. Further research across different time frames and considering additional factors can enhance the understanding of these relationships and their impact on firm value.

Discussion

This discussion discusses the findings from the analysis of each hypothesis, focusing on the partial and simultaneous effects of the independent variables on firm value for pre- and post-Covid periods. This study will examine how these relationships have evolved between the two periods and provide possible explanations for the observed changes. The discussion will also draw upon existing literature to support the interpretations and suggest directions for future research.

Interest Rates and Firm Value

The analysis reveals that the relationship between interest rates and firm value remains statistically insignificant for both pre- and post-Covid periods. However, the increase in significance level from 0.879 to 0.395 suggests that the impact of interest rates on firm value might have intensified following the outbreak of the Covid-19 pandemic. This development could be attributed to various pandemic-related factors affecting financial markets, such as increased market volatility, changes in monetary policy, and heightened investor sensitivity to interest rates.

Given the ongoing uncertainty surrounding global economic recovery and monetary policy normalization, it is plausible that many investors and market participants have become more attuned to changes in interest rates, leading to an amplified effect on firm value in the post-Covid period. This observation aligns with studies such as Maloney & Moskowitz, (2020), which emphasize the significant impact of interest rates on firm value under specific market situations.

Jakarta Composite Index (JCI) and Firm Value

The influence of the JCI on firm value also showed statistically insignificant results in both time periods. Nevertheless, the shift in significance level from 0.889 to 0.165 highlights a strengthened relationship between the JCI and firm value in the post-Covid era. This change may be attributed to an increased reliance on market indices to gauge overall market sentiment and economic recovery amid heightened uncertainty during the pandemic.

During times of uncertainty and market turbulence in the past, investors have been found to place greater importance on market-related indicators, such as market indices, to inform their decision-making (Qiu et al., 2021). As the JCI is a benchmark index representing the overall performance of the Indonesian stock market, an

intensified relationship with firm value in the post-Covid period could be indicative of investors' increasing reliance on market indices as a proxy for the broader economic landscape.

Return on Assets (ROA) and Firm Value

In the pre-Covid period, the relationship between ROA and firm value was statistically significant, reflecting the perceived importance of this financial performance indicator during that time. However, the relationship turned statistically insignificant in the post-Covid period, indicating a potential decrease in the relevance of ROA to firm value (Seth & Mahenthiran, 2022). This shift may stem from the unique challenges businesses faced during the pandemic, such as disrupted supply chains, reduced consumer demand, and mandated shutdowns.

Non-Performing Loans (NPL) and Firm Value

For the Non-Performing Loans (NPL), the relationship with firm value proved statistically insignificant in both pre- and post-Covid periods. The lack of substantial change in significance level suggests that NPL might not significantly impact firm value during these periods. There could be several reasons for this.

One could be that the management of firms has managed to maintain a level of control over their NPLs, leading to a relatively stable relationship with firm value. Another reason might be that investors may consider other factors, such as market volatility or ongoing economic uncertainty, more significant when assessing a firm's value during the pandemic. This lack of significant correlation between NPL and firm value aligns with studies like Foglia, (2022) which argue that NPLs might not significantly affect firm value, particularly when financial institutions have adequate risk management frameworks.

The Concurrent Effect of Interest Rate, JCI, ROA, and NPL on Firm Value

The simultaneous effect of interest rates, JCI, ROA, and NPL on firm value showed a decrease in significance level in the post-Covid era compared to the pre-Covid period. The combined influence of these factors, which was statistically significant in the pre-Covid period, turns to statistically insignificant in the post-Covid period, suggesting a potential decrease in their combined relevance to firm value.

This change could be due to the unique financial climate created by the pandemic, where markets are influenced by an entirely new set of variables, such as government support measures, shifts in consumer behavior and changes in business models. The pandemic may have brought about a transition in investor valuation methods, placing more emphasis on company resilience and adaptability to change, rather than traditional financial indicators. This finding coincides with the viewpoint of Husna & Satria, (2019) who argued the Covid-19 crisis has significantly changed firm value determinants.

The overall analysis suggests that the Covid-19 pandemic has potentially altered the relationships between the examined variables and firm value. These findings contribute to understanding how firm value determinants can evolve under major crisis events, providing insights for corporate management, policy makers, and investors. Future research could further explore these evolving relationships by incorporating additional variables related to company resilience, sectoral influences, government intervention, and changes in consumer behavior. Furthermore, a comparison across different country contexts might provide further valuable insights into how firm value determinants have been affected by the pandemic globally.

Conclusion

Prior to the onset of the pandemic, financial elements like interest rates, JCI, ROA, and NPL had a substantial impact on a firm's value. In the aftermath of the pandemic, however, these elements' influence witnessed a noticeable decrease. ROA, previously seen as non-contributory pre-pandemic, started manifesting a positive effect post-pandemic. Investors during the pandemic demonstrated a preference for non-real investments, given the challenges faced by the real sector. Veteran investors prioritized asset growth over financial statements and fundamental economic and financial analysis. Conversely, novice investors, potentially lacking in financial literacy, sought investment cues outside the conventional capital market, a testament to the signal theory. The pandemic has reshaped investment dynamics, characterized by a diminishing influence of financial aspects and transformation in investor behavior toward seeking investment signals.

Limitations

This study primarily focused on organizations listed on the stock exchange without differentiating between government-owned entities and private establishments. This study did not impose constraints on the capital structure, notwithstanding that firms with highly leveraged capital structures tend to exhibit greater sensitivity to interest rate fluctuations. For a thorough understanding of Corporate Value, one must also consider ancillary factors such as banking regulations, overarching economic conditions, and progress within the banking industry.

Theoretical Implications

The shift in perception and influence of financial components post-pandemic bears significant theoretical repercussions. Documented asset growth in financial statements now supersedes traditional financial aspects such as interest rates, JCI, ROA, and NPL in driving investment decisions. There is a noticeable change in investors' perspective on investment signals. The signal theory assumes paramount importance in scenarios where investors' access to symmetric information may be limited.

Investors deficient in financial literacy or balanced investment knowledge often seek alternative signals to guide their decision-making, which might influence them to contemplate investments outside the conventional capital markets. Investor behavior changes during the pandemic, evidenced by an infusion of newer investors into the capital market and the inclination towards non-real investments during the crisis, have significantly affected investment dynamics. Understanding these changes and maintaining robust financial literacy is pivotal for making prudent investment decisions. Diversification and risk management continue to be integral to an evolving investment ecosystem, particularly when venturing into potentially riskier non-capital market investments.

Practical Implications

Addressing changes in the investment landscape necessitates heightened awareness and adaptability based on asymmetric information-supported signals and investment trends. It is imperative for investors and prospective investors to elevate their financial literacy level. A robust comprehension of financial and investment concepts will equip them to make better decisions and understand the implications emanating from volatile investment environments. Diversifying and managing the inherent risk of an investment portfolio truly holds the key. Investors ought to understand the exigency of dispersing their investments across varied asset classes and the risk profile associated with each investment.

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