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MACROECONOMIC DETERMINANTS OF NON-PERFORMING LOANS IN INDONESIA'S PEER-TO-PEER LENDING SECTOR

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ABSTRACT

The emergence of peer-to-peer (P2P) lending as a fintech innovation in Indonesia's digital financial ecosystem has played a pivotal role in reshaping credit distribution, yet it has also coincided with a notable rise in non-performing loans (NPLs). While much of the existing literature focuses on traditional banking sectors, this study introduces a novel approach by concentrating exclusively on P2P lending—a relatively under-researched domain in Indonesia—in relation to macroeconomic dynamics. Specifically, it quantitatively investigates the impact of key macroeconomic indicators—economic growth, the benchmark interest rate (BI Rate), and the unemployment rate—on the occurrence of NPLs within P2P platforms. Utilizing quarterly time series data spanning from Q1 2020 to Q4 2024, sourced from Statistics Indonesia (BPS) and the Financial Services Authority (OJK), the study employs multiple linear regression analysis. The findings reveal that the three macroeconomic variables jointly exert a statistically significant effect on NPLs (F-test = 0.002). However, on an individual basis, only economic growth demonstrates a significant negative influence ($p = 0.000$), whereas the BI Rate and unemployment rate do not yield significant effects ($p = 0.208$ and 0.488, respectively). This research underscores the heightened sensitivity of P2P lending to shifts in economic performance and contributes to the academic discourse by highlighting the importance of developing adaptive, fintech-specific credit risk models in response to evolving macroeconomic conditions.

1 Introduction

Significant transformations in the financial industry are taking place due to advances in digital technology. Over the decades, digitalization has fundamentally reshaped the sector. Developments in information technology are accelerating, improving efficiency and expanding access to financial services. Current digitalization trends focus on innovative business models, as seen in the use of big data, artificial intelligence, and blockchain. Financial service providers are now competing to deliver digital products and services that better suit consumer needs. (P Gomber, JA Koch, 2017).

The advent of rapid technological progress in Indonesia has fostered a digital economy, impacting both banking and non-banking financial sectors. A key innovation within this landscape is the rise of Financial Technology (FinTech) firms, specifically those providing Peer-to-Peer (P2P) Lending services. P2P Lending platforms leverage technology to digitally bridge the gap between borrowers seeking business capital and lenders pursuing competitive returns and adaptable fund deployment. (Iskandar, 2019).

The P2P lending fintech sector faces increasing complexity despite its continued growth. A critical challenge is the rising rate of non-performing loans (NPLs), threatening platform sustainability and credibility. As of October 29, 2024, the OJK recognized 97 licensed P2P lending companies, a decrease from 101 companies on October 9, 2023, and May 31, 2024. This NPL issue is reflected in the TWP90 default rate, which was 2.91% in May 2024. Notably, 15 P2P lending companies exceeded the 5% acceptable threshold for TWP90 (Puspadini, 2024).

A high NPL/NPF ratio indicates a failure by institutions to properly manage disbursed funds for business purposes, which adversely affects institutional performance. The increase in non-performing loans can be attributed to both internal and external factors, including macroeconomic elements (Nugrohowati & Bimo, 2019). Generally, these causes can be classified into four main categories. First, macroeconomic factors such as political conditions, economic cycles, markets, regulations, and competition significantly influence borrower performance. Second, the quality of a borrower's management plays an important role, where weak governance increases the risk of default. Third, external factors beyond the borrower's control—such as fraud, takeovers, or contract violations—can also lead to loan defaults. Lastly, internal errors within the lending institution, such as inadequate credit analysis, are a major contributor to loan delinquency (Hada et al., 2020).

Numerous studies have investigated the drivers of non-performing loans (NPLs). Research indicates that both internal banking factors and macroeconomic conditions contribute to NPL accumulation. For instance, (Nugrohowati & Bimo, 2019) identified internal variables like BOPO, CAR, and ROA, alongside macroeconomic elements such as the BI Rate and GRDP, as influential in the banking sector. Similarly, (Hada et al., 2020) observed that exchange rates, unemployment, and inflation impact NPLs in Romanian banks. In Malaysia, (Zainol et al., 2018), using an ARDL approach, found GDP, base lending rate, inflation, and household income distribution to be significant determinants. Furthermore, (Prasetyo, 2020) concluded that economic growth, lending interest rates, inflation, and unemployment are key factors affecting conventional bank NPLs across ASEAN nations.

Despite the growing significance of peer-to-peer (P2P) lending within Indonesia's financial system, empirical research examining the impact of macroeconomic conditions on credit risk in this sector remains limited. Existing studies predominantly focus on the traditional banking industry and have yet to thoroughly explore how economic growth, interest rates, and unemployment influence loan performance within the fintech ecosystem. A comprehensive understanding of the interplay between macroeconomic dynamics and default behavior on digital fintech platforms is still lacking. Therefore, this study aims to address this gap by adopting a more context-specific analytical approach.

This study specifically examines the impact of three key macroeconomic indicators—economic growth, interest rates, and unemployment—on non-performing loans within Indonesia's fintech lending industry. It addresses two primary questions: the individual effect of each indicator on NPLs in the Indonesian P2P lending sector, and their combined influence on the same variable.

This research offers a distinctive contribution by shifting the analytical focus from traditional banking institutions to fintech P2P lending platforms, which operate under different business models and regulatory frameworks. Unlike previous studies that generally treat financial institutions as a homogeneous group, this study highlights the unique vulnerabilities and responses of the digital lending ecosystem to changes in macroeconomic conditions. The findings are expected to provide valuable insights for policymakers, regulators, and industry practitioners in developing more adaptive and context-sensitive credit risk management strategies tailored to the characteristics of technology-driven financial services in developing countries

2 Literature Review

This section presents a comprehensive review of prior empirical studies related to the macroeconomic determinants of Non-Performing Loans (NPLs), with a focus on their relevance to the financial sector. It begins by examining general findings from previous research on how macroeconomic variables influence NPLs. The review then explores the relationship between credit and NPLs, followed by a discussion of key macroeconomic indicators—such as economic growth, Bank Indonesia's interest rate (BI Rate), and unemployment—and their respective impacts on NPLs. This literature review aims to establish a solid theoretical and empirical foundation for the present study.

2.1. Macroeconomic Determinants of Non-Performing Loans: Evidence from Previous Empirical Studies

Investigations into the interplay between macroeconomic factors and non-performing loans (NPLs) have been a recurring theme in prior research. For example, (Linda et al., 2017) examined how macroeconomic variables influence credit risk within the ASEAN-3 banking system. Their study revealed that inflation, exchange rates, unemployment, and interest rates significantly elevate NPLs. However, GDP's effect on NPLs was negative but not statistically significant ($p>0.10$).

In their study, (Rizal et al., 2019) investigated how economic growth, inflation, and interest rates affect non-performing loans (NPLs) in Indonesia. They concluded that while short-term NPL fluctuations are linked to the previous year's inflation, long-term NPL trends are significantly shaped by interest rates and economic expansion.

(Hamdi et al., 2023) examined the consequences of macroeconomic variables on non-performing loans in Indonesian rural banks. Their study concluded that unemployment does not significantly affect NPLs, whereas inflation and economic growth do. Economic growth reduces NPL ratios by indicating improved macroeconomic conditions. Conversely, inflation elevates product prices, weakening household purchasing power (assuming stable income), and consequently increasing NPLs.

Research on the link between macroeconomic variables and non-performing loans in Indonesia's peer-to-peer lending sector is limited. This gap is significant because P2P lending's unique risk profile, disbursement methods, and digital focus distinguish it from traditional banking, where such relationships are widely studied.

Prior research largely overlooks the nuanced impact of key macroeconomic factors—economic growth, Bank Indonesia's benchmark interest rate, and unemployment—on non-performing loan indicators (TWP90) within the P2P lending sector.

2.2. Credit and Non-Performing Loans (NPLs)

In finance, credit refers to funds extended by financial institutions to clients. Per Indonesian Banking Law No. 10 of 1998, this involves a formal lending agreement where banks disburse funds, or their equivalent, requiring borrowers to repay the principal with interest by a set deadline. The quality of credit is assessed by its collectability, indicating the borrower's promptness in payments and their financial health. Collectability categories include current, special mention, substandard, doubtful, and loss (Ginting, 2017).

According to OJK Circular Letter No. 19/SEOJK.06/2023 concerning the Provision of Information Technology-Based Joint Funding Services, credit quality in P2P lending is classified based on collectability. A loan is considered current if there is no delay in interest or principal payments. It falls under special mention if payments are delayed but less than 30 days past due. Substandard refers to delays of 31–60 calendar days, doubtful to 61–90 days, and loss to over 90 days past the due date.

Non-Performing Loans (NPLs) are a key risk indicator for banks or financial institutions, representing the proportion of credit that has become problematic. The NPL ratio shows the extent of potential losses due to defaults or delinquency (Sari, 2020). In essence, NPLs refer to loans that have been delinquent for a certain period—typically more than 90 days. NPLs are a critical metric for evaluating credit quality and financial stability in both banking and P2P lending sectors. Persistent NPLs may erode institutional capital and, if left unaddressed, could lead to broader financial instability (Tangngisalu et al., 2020).

2.3. The Relationship Between Economic Growth and NPLs

Economic growth is a crucial indicator of a nation's overall economic performance. When economic growth is positive, both household and business incomes tend to rise, which improves borrowers' ability to repay debts, thereby reducing the likelihood of loan default. In contrast, economic contraction typically reduces borrower incomes, leading to a higher probability of default and an increase in NPL ratios.

Economic contraction demonstrably correlates with heightened financial system instability. Specifically, financial condition indices reflect a strong link to economic growth, with downturns directly increasing non-performing loan (NPL) risk, as evidenced by (Siswantoro, 2023). This aligns with (Tanaskovi & Jandri, 2015), who found a significant inverse relationship between GDP growth and NPL levels, indicating that declining economic growth contributes to an increase in non-performing loans.

Economic growth is critical for financial stability, particularly in the context of loan repayment. Studies consistently show that macroeconomic instability, characterized by low growth, directly impedes borrowers' ability to repay, escalating Non-Performing Loans (NPLs). For instance, research on developing countries (Koju et al., 2018) highlights this link. Similarly, Greece experienced a significant negative correlation between GDP growth and NPLs across various loan types (Louzis et al., 2012). The post-2008 economic slowdown notably increased NPLs in Central and Eastern European nations (Klein, 2013). These findings align with international institutions like the World Bank and Asian Development Bank, which emphasize that stable economic growth is crucial for maintaining the credit quality of financial institutions. Sustained growth enables borrowers to fulfill their repayment obligations, thereby mitigating default risk (World Bank, 2024)(Development, 2024). Consequently, a strong correlation exists between economic growth and credit health in the P2P lending sector.

H1: Economic growth has a significant negative effect on the level of Non-Performing Loans (NPLs) in P2P lending services in Indonesia.

2.4. The Relationship Between Bank Indonesia's Interest Rates and Non-Performing Loans (NPLs)

The cost of credit, paid by borrowers to financial institutions, is reflected in loan interest rates (Nindita, 2015). Bank Indonesia's Rate acts as the benchmark, signaling monetary policy direction (Nugrohowati & Bimo, 2019). High interest rates typically impair loan quality, increasing borrower burden and potentially raising non-performing loan (NPL) levels(Rizal et al., 2019).

H2: Bank Indonesia's interest rate has a significant effect on the level of Non-Performing Loans (NPLs) in P2P lending in Indonesia.

2.5. The Relationship Between Unemployment and NPLs

Unemployment, as a critical metric of labor market health, refers to individuals who are without work but actively searching for it. Both Statistics Indonesia(BPS, 2023) and the International Labour Organization (BPS, 2023) concur on this definition, characterizing unemployment as the state of not being employed despite being available and actively seeking work within the labor force.

The unemployment rate is a contributing factor to credit risk in the financial system. Elevated unemployment correlates with deteriorating credit quality, as more individuals face job loss or difficulty securing employment, thus impairing their ability to meet debt obligations. Workforce reductions, which typically drive increased unemployment, negatively affect productivity and corporate earnings, further elevating default risk. Job termination leads to income loss, heightening the likelihood of loan delinquency and increasing non-performing loan (NPL) ratios (Nindita, 2015). (Mulja & Kim, 2023) found that unemployment significantly affects credit risk, with rising unemployment increasing the probability of default within the banking system.

H3 : The unemployment rate significantly influences the level of Non-Performing Loans (NPLs) in Indonesia's P2P lending sector

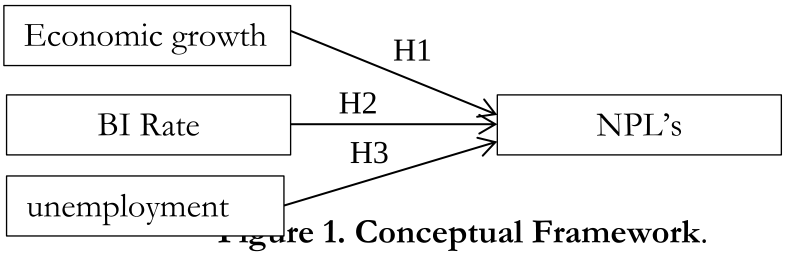

Figure 1. Conceptual Framework.

3 Research Methods

The present study adopts a quantitative explanatory research design, which is structured to examine and clarify causal relationships among variables through objective and systematic hypothesis testing. As defined by (Sugiyono, 2016), underpins this research to identify causal relationships between variables via hypothesis testing. This research makes use of secondary time series data from Q1 2020 to Q4 2024. The dataset encompasses several key macroeconomic indicators—namely, the economic growth rate, the Bank Indonesia policy interest rate (BI rate), the unemployment rate, and the volume of non-performing loans (NPLs) across peer-to-peer (P2P) lending platforms in Indonesia. These data were sourced from official publications and reports issued by Statistics Indonesia (Badan Pusat Statistik – BPS) and the Financial Services Authority (Otoritas Jasa Keuangan – OJK). The data collection method employed is the documentation technique, which involves systematically gathering relevant information from periodic reports—specifically, quarterly and annual releases from the aforementioned institutions.

The population of this research includes all P2P lending platforms that were formally registered with and regulated by the OJK during the period of observation. A saturation sampling technique—also referred to as a census method—was applied, whereby all available aggregated industry data for the years 2020 to 2024 were utilized as the sample. This method allows for a comprehensive analysis of the entire P2P lending sector in Indonesia, thereby enhancing the generalizability and validity of the study’s findings. Multiple linear regression is employed for data analysis, utilizing the following model:

$$NPL = \beta_0+\beta_1 \text{ Economic Growth}+\beta_{(2)} \text{ BI Rate} + \beta_3 \text{ Unemployment} + \varepsilon.$$

4 Results and Discussion

The results and discussion in this study consist of two parts: first, the results of statistical tests, including data tests and difference tests; second, a discussion that interprets the research findings in comparison with relevant theories and previous research results.

4.1. Result

For Ordinary Least Squares (OLS) multiple linear regression, classical assumption tests are foundational statistical requirements. Meeting these assumptions is crucial for the regression model to produce accurate, unbiased, and consistent optimal estimates. The outcomes of these tests in the present study are as follows:

Table 1. Classical Assumption Results

DESCRIPTION	RESULT
Normality Test Result	Sig. 0,075
Autocorrelation Test	
Durbin-Watson Test	1,6763<1,743<2,3237

Run Test	Sig. 0,818	
Heteroscedasticity Test		Sig.
Economic Growth		0,076
BI Rate		0,714
Unemployment		0,542
Dependent Variable:ABRES		
Multicollinearity Test	Tolerance	VIF
Economic Growth	0,891	1,122
BI Rate	0,419	2,387
Unemployment	0,407	2,455
Dependent Variable NPL		

Source: SPSS Output, 2025

The classical assumption tests, summarized in Table 1, confirmed the suitability of the data. Normality was established by the Kolmogorov-Smirnov test, with an Asymp. Sig. (2-tailed) value of 0.075, exceeding the 0.05 threshold. Heteroscedasticity was absent, as indicated by the Glejser test; significance values for economic growth (0.076), BI rate (0.714), and unemployment (0.542) all surpassed 0.05. Multicollinearity was not detected, evidenced by tolerance values above 0.10 (economic growth: 0.891; BI rate: 0.419; unemployment: 0.407) and VIF values below 10 (1.122, 2.387, and 2.455, respectively). Finally, the Runs Test confirmed the absence of autocorrelation, yielding an Asymp. Sig. (2-tailed) value of 0.818, above 0.05.

Hypothesis testing, comprising both F-tests and t-tests, is conducted subsequent to multiple linear regression analysis to evaluate the model's validity.

Table 2. Regression Results

DESCRIPTION	**RESULT**	
F-Test Result		Sig. 0,002
t-Test Result	B	
Constant	-0,043	Sig. 0,993
Economic Growth	-0,365	Sig. 0,000
BI Rate	0,475	Sig. 0,208
Unemployment	0,393	Sig. 0,488
Coefficient of Determination		
Adjusted R-Square		0,521
Dependent Variable : NPL		

Source: SPSS Output, 2025

A statistical analysis, detailed in Table 2, reveals a significant collective impact of economic growth, the BI rate, and unemployment on non-performing loans (NPLs) in Indonesian peer-to-peer (P2P) lending, as indicated by an F-test significance value of 0.002 ($p < 0.05$). Individually, economic growth significantly influences NPLs with a negative correlation (t-test significance value = 0.000, $p < 0.05$). Conversely, the BI rate ($p = 0.208$) and unemployment ($p = 0.488$) do not individually impact NPLs, despite a positive relationship. The regression model is presented below.

$$\text{NPL} = -0{,}043 - 0{,}365\ \text{Economic Growth} + 0{,}475\text{BI Rate} + 0{,}393\ \text{Unemployment} + \varepsilon$$

An inverse relationship exists between economic growth and non-performing loans (NPLs) in Indonesian P2P lending; a one-unit increase in the former is associated with a 0.365-unit decrease in the latter. Conversely, BI rate and unemployment directly correlate with NPLs. A one-unit rise in the BI rate corresponds to a 0.475-unit increase in NPLs, while a one-unit rise in unemployment correlates with a 0.393-unit increase in NPLs. These relationships hold constant for other factors.

Table 2 indicates that the adjusted R^2 is 0.521. Therefore, 52.1% of the variance in non-performing loans within Indonesian P2P lending is explained by the independent variables: economic growth, BI rate, and unemployment. The remaining 47.9% is attributable to other factors not included in this study, such as inflation, exchange rates, and internal factors of P2P lending institutions, including financial performance.

4.2. Discussion

This section discusses the empirical findings of the study concerning the impact of selected macroeconomic variables on Non-Performing Loans (NPLs) in Indonesia's financial sector. Specifically, it examines the effect of economic growth, the BI interest rate, and the unemployment rate on the level of NPLs. The analysis highlights how each variable influences credit risk and aligns or contrasts with previous empirical evidence, offering insights into the broader macro-financial environment:

4.2.1. The Effect of Economic Growth on NPL

Economic growth, defined as the sustained increase in a country's production of goods and services, signifies broader improvements in household consumption, investment activity, and aggregate output (Tansany et al., 2023). Within the scope of digital financial platforms such as peer-to-peer (P2P) lending, economic growth is a crucial determinant of borrowers' repayment capacity, especially among micro, small, and medium enterprises (MSMEs), which form the core segment of P2P borrowers in Indonesia.

Empirical findings from this study demonstrate a statistically significant negative relationship between economic growth and the level of non-performing loans (NPLs) in the P2P lending sector. In periods of economic expansion, households and MSMEs generally experience increased income and business stability, which improve their ability to fulfill loan obligations in a timely manner. This economic environment directly contributes to a lower incidence of loan defaults. Given the high sensitivity of MSME borrowers to macroeconomic fluctuations, improved growth conditions tend to enhance repayment behavior and reduce credit risk exposure.

This empirical relationship aligns with business cycle theory, which emphasizes that economic dynamics significantly influence financial decision-making and credit performance (Mankiw, 2001). Furthermore, the financial accelerator model developed by Bernanke and Gertler highlights how economic downturns diminish borrowers' net worth and income, consequently increasing the likelihood of default (Satria & Solikin M. Juhro, 2012). In this context, consistent and positive economic growth functions as a stabilizing macroeconomic force that supports credit quality and enhances the resilience of digital lending platforms in emerging markets such as Indonesia.

4.2.2. The Effect of BI Interest Rate on NPL

The findings of this study indicate that the Bank Indonesia (BI) benchmark interest rate does not have a statistically significant effect on the level of non-performing loans (NPLs) on peer-to-peer (P2P) lending platforms in Indonesia. This result suggests that fluctuations in interest rates do not directly influence borrowers' ability to meet their loan obligations, implying that other factors beyond interest rate changes play a more dominant role in shaping repayment capacity. This is consistent with the view that monetary policy variables such as interest rates do not always exert a direct impact on credit risk in digital financial sectors within emerging economies (Mishkin, 2011).

One plausible explanation is that the majority of borrowers in the P2P lending ecosystem are micro, small, and medium enterprises (MSMEs) or individuals seeking urgent short-term financing. These borrowers often rely more heavily on operational cash flows than on monetary policy signals, making them less responsive to changes in BI's benchmark rate. In addition, many P2P lending platforms apply fixed interest rates or rates that are not directly tied to BI's policy rate, thereby weakening the transmission effect of monetary policy on credit performance.

This phenomenon can be explained through the lens of Liquidity Preference Theory, developed by John Maynard Keynes, which posits that individuals prefer to hold cash over interest-bearing assets during periods of uncertainty. In the context of P2P lending, borrowers are often more focused on short-term liquidity needs and quick access to funds than on borrowing costs (Keynes, 1936). As a result, interest rates become a less significant consideration in borrowers' decisions or in determining default risks, particularly among financially vulnerable groups.

P2P lending, as a digital financing model, facilitates direct interaction between borrowers and lenders without intermediaries such as traditional financial institutions. In this model, interest rates are market-driven and highly flexible, differing substantially from those offered by banks. Loan agreements are civil contracts, whereby the agreed-upon interest rate becomes legally binding once both parties consent. Borrowers have the right to reject proposed terms they find unfavorable. Once an agreement is reached, both parties are legally obligated to fulfill their respective rights and responsibilities. To ensure transparency and consumer protection, the Indonesian Joint Funding Fintech Association (AFPI) enforces a code of conduct that limits daily flat interest charges to 0.8% and caps the total borrowing costs—including interest, penalties, and fees—at no more than 100% of the principal amount (OJK, 2016).

Furthermore, interest rates on P2P platforms are determined by various factors, including the borrower's credit risk profile, loan maturity, supply and demand for funds, and platform-specific policies. Unlike banks, which are heavily influenced by central bank policy rates, P2P platforms enjoy greater flexibility in setting rates that reflect prevailing market conditions. For most P2P borrowers—typically MSMEs or individuals in urgent need of liquidity—speed of disbursement and ease of application are often prioritized over cost considerations. Despite a relatively high level of digital financial inclusion in Indonesia, financial literacy remains low, which further diminishes the role of interest rates in borrower decision-making.

Given these characteristics and borrower behaviors in the P2P lending space, it can be concluded that although classical economic theory suggests that interest rates influence borrowing costs, in practice, there is no significant relationship between interest rates and NPLs in this sector. As such, greater analytical and policy attention should be directed toward other determinants, such as borrower risk assessment, credit scoring effectiveness, and the suitability of loan disbursement strategies. These findings are in line with previous studies by (Musta & Pramono, 2022) and (Prasetyo, 2020), which also found no significant impact of interest rates on NPLs in the Indonesian P2P lending sector.

4.2.3. The The Effect of Unemployment on NPL

An analysis of Indonesia's peer-to-peer (P2P) lending platforms reveals that the influence of the unemployment rate variable on the non-performing loan (NPL) ratio yields mixed but informative results. Theoretically, an increase in unemployment is expected to reduce household income and financial stability, thus elevating the risk of loan default. In support of this view, some findings indicate that rising unemployment correlates with higher NPLs, as borrowers experience reduced repayment capacity. This observation is consistent with macroeconomic theory, which posits that disruptions in the labor market directly impact cash flows for small-scale businesses and individuals, thereby undermining their ability to repay (Mankiw, 2001).

However, other empirical findings suggest that the unemployment rate does not significantly influence NPL levels in the P2P lending sector. This may be attributed to the borrower profile in this industry, which largely comprises individuals engaged in the informal sector, such as freelancers, micro-digital entrepreneurs, or participants in the gig economy. These individuals are less dependent on formal employment and often derive income from alternative sources, which are typically not captured by official labor market statistics. Consequently, macroeconomic indicators like the national unemployment rate may not reflect the actual credit risk posed by such borrowers.

This notion is reinforced by the work of (Bienefeld & Godfrey, 1975), who argued that informal sector unemployment is difficult to measure accurately and does not necessarily signal a reduction in income or consumption. Therefore, in the context of developing economies like Indonesia, relying solely on macro-level indicators such as unemployment may provide an incomplete picture of credit risk in the digital financing sector.

Furthermore, P2P lending platforms in Indonesia increasingly rely on algorithmic credit scoring and alternative data—such as digital transaction records, social media activity, and online behavioral patterns—rather than traditional economic indicators (Brankas, 2024). This allows for more individualized and real-time risk assessments, minimizing the relevance of formal employment status in evaluating creditworthiness. On the investment side, lenders in P2P platforms tend to diversify their portfolios, spreading risk across different types of loans and borrower categories, thereby reducing exposure to sector-specific defaults.

These findings align with Segmented Labor Market Theory, which distinguishes between formal and informal labor sectors, each characterized by different employment conditions and income stability. Since P2P borrowers are predominantly drawn from the informal sector, they may not be significantly impacted by fluctuations in formal sector unemployment, weakening the variable's explanatory power over NPL dynamics.

In summary, while unemployment is theoretically regarded as a determinant of credit risk, this study finds its empirical effect on NPLs in Indonesia's P2P lending sector to be statistically insignificant. Accordingly, digital lending risk assessments should place greater emphasis on borrower-specific characteristics and the effective use of alternative data sources rather than relying exclusively on traditional macroeconomic indicators. This conclusion is in line with (Hamdi et al., 2023), who also reported no significant relationship between unemployment and NPLs in Indonesia's fintech lending landscape.

5 Conclusion

Economic growth significantly impacts Non-Performing Loans (NPLs) in Indonesia's peer-to-peer (P2P) lending sector, unlike interest rates and unemployment, which show no significant influence. This is because economic expansion directly improves borrowers' ability to repay and strengthens business conditions, especially for MSMEs and informal sector participants. Improved macroeconomic conditions, reflected by increased economic growth, correlate with a decrease in the NPL ratio. The limited relevance of interest rates and unemployment stems from the short-term loan structures and borrower profiles characteristic of Indonesian fintech lending, which diverge from traditional banking behaviors.

This research offers key implications for policymakers and companies. Policymakers can leverage these insights to formulate economic recovery strategies that protect financial stability, especially concerning P2P lending platforms, which may present systemic risks. For companies, the study provides valuable data for assessing P2P lending performance and managing credit challenges. While commonly examined macroeconomic variables demonstrated limited impact on non-performing loans (NPLs) in this context, future research should investigate additional proxies like inflation, exchange rates, and credit deposit ratios. Expanding the study's timeframe and broadening variable selection would significantly enhance the accuracy and applicability of subsequent findings.

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