
**THE INFLUENCE OF INFLATION, EXCHANGE RATE, AND INTEREST RATE ON
FINANCIAL DISTRESS WITH FIRM SIZE AS A MODERATING VARIABLE IN
MANUFACTURING COMPANIES LISTED ON THE INDONESIA STOCK
EXCHANGE**

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ABSTRACT

This study aims to prove the effect of inflation, exchange rate, and interest rate on financial distress with firm size as a moderating variable in manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2020-2024 period. The sample consisted of 124 manufacturing companies selected through purposive sampling, resulting in 620 observations. Data analysis was performed using panel data regression with the Fixed Effect Model approach based on the results of the Chow and Hausman Tests. Hypothesis testing was conducted through simultaneous tests, partial tests, and Moderated Regression Analysis (MRA). The analysis results show that the exchange rate affects financial distress significantly, while inflation and interest rates have no significant effect. Firm size is proven to moderate the exchange rate effect on financial distress significantly but fails to moderate the effects of inflation and interest rates. These findings imply that companies need to manage exchange rate risk more effectively, and small firms should be more vigilant about exchange rate fluctuations as they do not possess the same financial resilience as large firms.

Keywords: Financial Distress, Inflation, Exchange Rate, Interest Rate, Firm Size.

1. INTRODUCTION

The manufacturing sector (also known as the processing industry) became one of the main supports and primary pillars in the Indonesian economy. In accordance with Bank Indonesia data from 2025, this sector has persistently contributed to the national Gross Domestic Product (GDP) in a range between 16% and 19%, which is the uppermost contributor when compared to other economic sectors. As a sector, its reach far exceeds its contribution to GDP. It absorbs the labor force, supports export growth, and links industries up and downstream from raw materials to production. Thus, financial stability in the manufacturing sector has wide and important system-wide consequences for the country's entire economy. The manufacturing sector experienced development at varying levels from 2020 to 2024. The tourism sector started to rise again, after previously being pressured by the COVID-19 pandemic in 2020, with an increase of 9.96% in 2024 and a contribution of IDR 3,591.775 trillion to GDP value. This development illustrates how industrial space has shown resilience to both global and local economic shocks. Despite this recovering trend, the Indonesian manufacturing sector grapples with profound structural challenges regarding external financing. Among the processing industry sector, the position of

Foreign Debt (ULN) average in 2020 was USD 36,448 million and continues to increase in the following years up to an average of USD 47,891 million in 2024 (BI, 2025). This ULN exposure makes manufacturing companies prone to external risks, especially changes in the rupiah exchange rate against the US dollar. A depreciation of the exchange rate considerably increases the financial burden of paying installments and interest, which can put social pressure on the generation as well as lead to being financially distressed. Financial distress is a state in which a company seems financially troubled and is incapable of fulfilling its obligations for the short or long term, resulting in bankruptcy or liquidation (Rahayu et al., 2025). This condition indicates deterioration in the financial health before bankruptcy or liquidation (Arif, 2022). These signs of financial distress can manifest as increasing costs for raw materials, recessionary sales numbers, and layoffs (PHK). Operationally, this happens when operational cash flows are insufficient to cover short-term liabilities, ranging from trade payables to interest expenses. Bankruptcy has a systemic impact on shareholders, employees, and the national economy (Ngadi & Ekadjaja, 2019). If firms are able to detect early warning indicators, it gives time to adjust their internal factors (Sidharta, 2023). Thus, predictive analysis is important for investors, banks, governments, and corporations homing in on deteriorating financial situations (Rohmadini, 2018).

Financial problems may arise as a result of both internal and external factors. (Judijanto et al., 2025) state that external forces or exogenous shocks include macroeconomic variables such as interest rates, exchange rates, and inflation. When a country is in the early stages of economic downturn, businesses are more likely to suffer from the consequences (Rohiman, 2019). Inflation is an important driver that can erode corporate financial health. Consumer purchasing power will be suppressed by high inflation, and market demand is weakening, which ultimately leads to reduced company revenue (Christina & Bangun, 2022). This scenario then awakens the possibility of them falling into financial distress, where firms can no longer secure funding for their incessantly growing, by-the-hour operating costs. For companies that rely heavily on imported raw materials, the exchange rate is of utmost importance. A weaker rupiah causes production costs to balloon and corporate profits to shrink. The rupiah continued to weaken throughout 2023, dropping by another 5.3% against the US dollar (source: bi.go.id), and based on (Judijanto et al., 2025), 72% of imported raw materials are also essential components in manufacturing processes. As a result, firms might face liquidity problems, as operational cash flow is insufficient to meet short-term debt obligations. It is this critical situation that can then lead the company into the realm of financial distress.

Interest rates are another factor in this. In response to a declining rupiah and high inflation, Bank Indonesia also tightened its monetary policy by increasing its benchmark interest rate to 6.00% in 2024 (Bank Indonesia). This policy has an immediate effect on rising corporate borrowing costs. As previously reported by (Wibowo et al., 2022), an increase of 1% in interest rates can decrease corporate net profit from the previous level by as much as 3.1%. As (Ulaya & Nurfauziah, 2022) State, a higher interest rate policy leads to rising corporate interest expense, thereby increasing a firm's vulnerability to financial distress risk. Three macroeconomic variables interact and put a serious strain on manufacturing companies' financial performance. Several empirical studies also validate the forecasting power of macroeconomic variables for financial insolvency. According to (Ulaya & Nurfauziah, 2022), inflation reflects the increased risk of financial distress for mining companies. With respect to exchange rates, studies show that rupiah depreciation negatively affects the manufacturing sector significantly (Wafi et al., 2021).

According to (Wafi et al., 2021), interest rates also continue to worsen the financial condition of manufacturing companies.

Nevertheless, most previous literature has neglected firm size. However, as noted by (Lee et al., 2017), heterogeneity is instrumental as a moderation factor since it captures the effectiveness of financial resources, easy access to low-cost funding, and better risk management capabilities. That is, the scale of a company can dampen or enhance the impact of macroeconomic conditions on its likelihood of financial distress. Large-scale companies tend to be better positioned to weather economic turbulence, given greater financial flexibility and access to wider funding sources, advantages that are harder for smaller businesses to match. Moreover, previous studies often relied on data that ended before 2020 and omitted the dynamics of the post-COVID-19 pandemic period and subsequent global interest rate hikes. Using updated data to 2024, this paper seeks to make a significant contribution to the financial distress of manufacturing firms in Indonesia affected by inflation, exchange rates, and interest rates. In light of this context, the current analysis investigates whether firm size plays a moderating role in the relationships between financial distress and inflationary pressures, exchange rates, and interest rates. The sample for this study consists of industrial companies listed on IDX. This study fits within the finance literature by providing an additional theoretical framework for practitioners (managers, investors and government officials) as a means to develop coping mechanisms from deteriorating financial conditions due to volatile macroeconomic conditions.

2. LITERATURE

2.1. Keynesian Theory

The Keynesian theory, first put forward in 1936 by John Maynard Keynes in *The General Theory of Employment, Interest, and Money*, suggests that economic instability occurs when aggregate demand is out of balance with aggregate supply. This process is referred to as demand-pull inflation, where aggregate public demand demands more than what the economy can supply, which eventually leads to an increase in prices due to high agglomeration of demand (Ningsih et al., 2021). Keynes suggested a liberal economy based on capitalism would fail to solve unemployment, high inflation, or economic depression. Therefore, the economy can remain stable only when the government intervenes through targeted fiscal and monetary policies (Rohiman, 2019). Several parts of this analysis are very Keynesian: inflation arises from an imbalance between consumption demand and the economy's productive capacity, leading to competition among social groups for a larger share of limited output. On the other hand, interest rates are defined as the price of money, driven by the public's preference for keeping their wealth in liquid form (Adiliana, 2020). Bank Indonesia is responsible for carrying out monetary policy as well as stabilizing the foreign exchange rate and controlling inflation, so that the circulation of money can run smoothly to support maximum economic activity in Indonesia (Myllariza, 2021).

2.2. Inflation, Exchange Rate, and Interest Rate on Financial Distress

Macroeconomic volatility expressed in the dynamics of inflation, exchange rates, and interest rates together potentially has systemic pressure on the real sector within the framework of Keynesian theory. These three indicators are all intertwined and set the outside state of play for corporate financial viability. Inflation increases production costs but reduces consumer purchasing power at the same time (Myllariza, 2021). A depreciating exchange rate adds pressure on the cost of imports and foreign currency-denominated debt obligations (Sumani, 2019). At the same time, increased

interest rates worsen the cost of corporate funding (Ulaya & Nurfauziah, 2022). Simultaneously, these variables can act in concert, having a combined effect that exacerbates liquidity crises, compresses profits, and ultimately makes companies more susceptible to financial distress. Empirical evidence from (Natasa, 2023) and (Judijanto et al., 2025) suggests that macroeconomic variables (economic growth, inflation rate, interest rates, and money supply) simultaneously influence financial distress. This highlights the need for companies to embed the dynamics between these three indicators in their financial risk management approaches.

H1: Simultaneously, inflation, exchange rates, and interest rates affect financial distress significantly.

2.3. Inflation on Financial Distress

According to the economic definition, inflation means a sustained and persistent increase in the prices of goods over an extended period of time. This is systemic, as the rise in one good impels other prices, and eventually leads to general pricing shocks that affect the whole economy (Wafi et al., 2021). According to (Myllariza, 2021), inflation decreases purchasing power, thus decreasing demand for what the company offers. This will damage profitability if this situation continues long-term and may push companies into financial distress. (Christina & Bangun, 2022), support this argument by clarifying that price increases caused by inflation raise operational costs, while revenues shrink. As a result, the chances of a company facing financial stress. So inflation is not just changing the way public consumers behave; it also hits corporate bottom lines directly.

H2: Inflation affects financial distress significantly.

2.4. Exchange Rate on Financial Distress

As defined by (Wafi et al., 2021), the foreign exchange rate is the value of one currency in terms of another, which shows how much it costs to buy, sell, or convert currencies in place (Wafi et al., 2021). The foreign exchange rate is the number of Indonesian rupiahs that must be exchanged in order to obtain one unit of foreign currency (Natasa, 2023). Foreign exchange rate stability is essential to ensure the creation of an environment favorable to corporate growth. In a stable exchange rate, companies can control their long-term finance more effectively, avoid the risk of an unexpected increase in production costs, and attract investors (Judijanto et al., 2025). Exchange rate risk, on the other hand, has a double negative effect due to higher costs of input and greater competitive pressure, which leads companies towards bankruptcy (Natasa, 2023).

H3: The exchange rate affects financial distress significantly.

2.5. Interest Rate on Financial Distress

(Darmawan, 2016) states interest as a compensation for investment, where the interest rate signifies the degree of this remuneration determined as a percentage of the capital sum for a unit time. On the other hand, from a macroeconomic perspective, (Kurniasanti & Musdholifah, 2018) see interest rate as the equilibrium price of investment funds or loanable funds, where it describes the interaction between demand for funds and supply of funds in the market. The effect of a hike in interest rates is an increase in the cost of borrowing for companies to shoulder, thus mounting up interest expenses and squeezing operating profit. According to (Ulaya & Nurfauziah, 2022) and (Suriani et al., 2024).

H4: The interest rate affects financial distress significantly.

2.6. Firm Size Moderates the Effect of Inflation on Financial Distress

The description of inflation is a general increase in prices that has emerged into two things: there is a production cost burden and a decrease in purchasing power that can lead to decreased company

revenues, which will also have an impact on the company's financial distress (Christina & Bangun, 2022); (Myllariza, 2021). But size, represented by large firm size, can curtail the adverse effect of inflation. Large enterprises, represented here by total assets or sales, benefit from more stable funding sources in addition to the ability to diversify their portfolios and economies of scale. Such benefits allow large corporations to hedge against inflation risk with more sophisticated liquidity strategies, as well as implying better cost negotiations (Kurniasanti & Musdholifah, 2018). The financial flexibility that characterizes large companies, in the end, diminishes their reliance on sensitive sectors and leads to a constant financial stability (Heliani & Elisah, 2022).

H5: Firm size moderates the inflation on financial distress significantly.

2.7. Firm Size Moderates the Effect of the Exchange Rate on Financial Distress

Exchange rate fluctuations that lead to the depreciation of the local currency can increase the cost of importing raw materials and exacerbate the burden of foreign debt, thereby reducing profits and heightening the risk of financial crisis (Sumani, 2019); (Judijanto et al., 2025). However, large firm size serves as a risk mitigant through access to hedging instruments, diversification of export-import markets, and the ability to renegotiate contracts with global suppliers (Christina & Bangun, 2022). Furthermore, high liquidity provides large corporations with the flexibility to accumulate foreign currency reserves or emergency funds, making them more resilient in absorbing shocks caused by exchange rate volatility (Kurniasanti & Musdholifah, 2018).

H6: Firm size moderates the exchange rate on financial distress significantly.

2.8. Firm Size Moderates the Effect of the Interest Rate on Financial Distress

An increase in interest rates raises the debt financing burden of companies, particularly those reliant on high-interest loans, thereby reducing operating profit and cash flow, which in turn increases the risk of financial distress (Natasa, 2023). However, companies with large asset scales tend to be more capable of surviving difficult situations because they have access to diverse alternative funding channels (including bonds and equity) as well as strong bargaining power to renegotiate debt schemes with creditors (Christina & Bangun, 2022). Furthermore, high liquidity and portfolio diversification enable large firms to allocate reserve funds to mitigate rising interest costs.

H7: Firm size moderates the interest rate on financial distress significantly.

3. METHOD

3.1. Population and Research Sample

The study population comprises all manufacturing companies listed on IDX from 2020 to 2024, totaling 177 firms. The sampling method employed was purposive sampling, based on the following criteria:

1. Manufacturing companies listed from 2020 to 2024.
2. Consistently provided complete financial reports for the years 2020 to 2024.
3. Disclosed their financial reports in Indonesian Rupiah for the years 2020 to 2024.

Based on these criteria, 124 companies were selected as the sample. This study analyzed a total of 620 observations over the five-year period from 2020 to 2024.

3.2. Data Collection

The data collection was carried out through the documentation method by compiling the secondary sources. Data for the financial reports covering 2020 to 2024 were sourced from both the official website of the IDX and that of the issuers themselves. Data on annual inflation were taken from

the publication of the Indonesian Central Bureau of Statistics, while the exchange rate of rupiah against the US dollar and benchmark interest rate (BI Rate) data were taken from Bank Indonesia publications.

3.3. Data Analysis

The analysis method was panel data regression with Eviews 12. This method was selected because it can integrate the time series of data from 2020 to 2024 with cross-sectional data of manufacturing companies listed on IDX. Descriptive statistical analysis of mean, maximum, minimum, and standard deviation was conducted for all the observed variables prior to model estimation to describe the characteristics of the data. The first step in the panel data analysis was to choose the most suitable estimation model among three models: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The outcome of the model selection involved a series of tests conducted sequentially: the Chow test, as well as the heteroskedasticity and autocorrelation test to compare CEM with FEM, the Hausman test to compare FEM against REM, and finally the Lagrange Multiplier (LM) test that compares CEM against REM. This series of tests identified the best model for subsequent analysis. We used different approaches, such as the coefficient of determination (R^2), the F-test joint effect for independent variables analysis, and the t-test to assess individual effects. Moderated Regression Analysis (MRA) was used to investigate the moderating role of firm size.

4. RESULTS AND DISCUSSION

4.1. Descriptive Analysis

Table 1 below presents the descriptive statistical analysis for each research variable.

Table 1. Descriptive Test Result

	FD	INF	ER	IR	FS
	3.72060	0.02648		0.04950	28.224
Mean	8	0	14971.35	0	67
Media	2.68988	0.01870		0.05500	28.127
n	3	0	14870.61	0	38
Maxi	29.2566	0.05510		0.06000	32.937
mum	7	0	15846.90	0	87
-					
Mini	14.4633	0.01570		0.03500	24.604
mum	1	0	14311.96	0	27
Std.	4.43793	0.01477		0.01100	1.4689
Dev.	3	5	539.1911	9	01

Table 1 shows that, among all companies surveyed, the average financial distress level was 3.720608, indicating a healthy (non-bankrupt) condition. The highest financial distress level was 29.25667 in 2021 for PT Industri Jamu dan Farmasi Sido (SIDO), while the lowest was -14.46331 in 2024 for PT Pania Asia Indo Resources Tbk. (HDTX). From 2022 to 2024, the inflation variable ranged from 1.57% to 5.51%, with an average value of 2.64%. The average exchange rate was IDR 14,971.35, with a standard deviation of IDR 539.19. The exchange rate peaked in 2024 at

IDR 15,846.90 and declined to IDR 14,311.96 in the following year. With a minimum of 3.5% in 2021 and a maximum of 6% in 2023 and 2024, the average interest rate was 4.95%. With a maximum of 32.93787 and a minimum of 24.60427 in 2024, the firm size variable had an average of 28.22467. The largest company in the sample was PT Indofood Sukses Makmur Tbk. (INDF).

4.2. Model Selection Analysis

4.2.1. Chow Test

Table 2 presents the Chow test to select between the CEM and the FEM.

Table 2. Chow Test

Effects Test	Statistic	Prob.
		d.f.
	16.01209	(123,490.000
Cross-section F	8	3) 0
Cross-section Chi-square	895.8317	0.000
	09	123 0

The Chow test results show a probability 0.0000 (< 0.05), indicating rejection of H_0 and supporting the FEM as more appropriate than the CEM. A comparison between the FEM and REM was then conducted using the Hausman test.

4.2.2. Hausman Test

Table 3 below presents the Hausman test for selecting between the FEM and the REM.

Table 3. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	27.866121	3	0.0000

The Hausman test produced a probability 0.0000 (< 0.05), resulting in the rejection of H_0 . Therefore, the FEM is selected as the appropriate model.

4.3. Panel Data Regression

Table 4 below presents the regression result.

Table 4. Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	63.58895	28.88012	2.201824	0.0282
INF	-0.152784	0.117591	-1.299278	0.1945
ER	-6.360359	2.900116	-2.193140	0.0288
IR	0.657965	0.472503	1.392508	0.1645

Based on the data presented in Table 4, the regression equation derived is as follows:

$$FD = 63.5889 - 0.1527INF - 6.36033ER + 0.6579IR$$

The regression equation yields a constant of 63.58895, representing the predicted value of financial distress when inflation, the exchange rate, and interest rates are held constant at zero. This indicates that for each incremental rise in inflation, the value of financial distress decreases with a coefficient of -0.152784. The exchange rate coefficient of -6.360359 indicates that a weaker rupiah (higher exchange rate) leads to lower financial distress. On the other hand, the interest rate coefficient being 0.657965 implies that a one-unit increase in interest rates leads to an increase in financial distress, holding everything else constant.

4.4. Hypothesis Test

4.4.1. Coefficient of Determination (R^2)

Table 5 below presents the R^2 .

Table 5. R Square

R-squared	0.809264
Adjusted R-squared	0.758015

The results generally mean that inflation, exchange rate, and interest rates account for 80.93% of variations in financial distress ($R^2 = 0.809$), while the remaining are influenced by other factors that are not part of this study (19.07%). Therefore, the regression model is suitable for investigating the effect of macroeconomic variables on manufacturing firms during 2020–2024.

4.4.2. Simultaneous Test (F-Test)

Table 6 below presents the F-test.

Table 6. F Test

F-statistic	15.79083
Prob(F-statistic)	0.000000

The probability of 0.000000 (<0.05) confirms that the H1 is acceptable. This demonstrates that inflation, the exchange rate, and interest rates simultaneously affect financial distress.

4.4.3. Partial Test (T-Test)

Based on the T-test in Table 4, the conclusions can be drawn:

1. Inflation does not affect financial distress (reject H2), with p 0.1945 0.05 (>0.05).
2. The exchange rate affects financial distress significantly (accept H3), with p-value 0.0288 (<0.05).
3. The interest rate does not affect financial distress (reject H4), with p 0.1645 (>0.05).

4.4.4. Moderating Regression Analysis (MRA)

Table 7 presents the MRA.

Table 7. Moderation Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	345.8612	414.9700	0.833461	0.4050
INF	-6.359009	5.919865	-1.074181	0.2833
ER	-35.50599	41.62328	-0.853032	0.3941
IR	4.277949	6.886808	0.621180	0.5348
FS	-1.074518	1.915755	-0.560885	0.5752
INF*FS	1.856121	1.765119	1.051555	0.2936
ER*FS	6.76E-05	9.39E-05	0.719279	0.0472
IR*FS	-0.124814	0.234224	-0.532883	0.5944

The moderation test results reveal the following, as shown in Table 7:

1. The interaction between inflation and firm size yielded a significance 0.2936 (>0.05), indicating that firm size does not moderate the inflation on financial distress (reject H5). Thus, firm size is classified as a homologizer moderator.
2. The interaction between the exchange rate and firm size produced a significance 0.0472 (<0.05), confirming that firm size moderates the exchange rate on financial distress (accept H6). The positive interaction coefficient (6.76) and negative exchange rate coefficient (-35.50599) suggest that the negative effect of exchange rate depreciation on financial distress is weaker for larger firms. And here, company size is categorized as quasi-moderation.
3. The interaction between the interest rate and firm size resulted in a significance 0.5944 (>0.05), indicating that firm size does not moderate the interest rates on financial distress (reject H7). Consequently, firm size is again categorized as a homologizer moderator.

4.5. Discussion

4.5.1. Inflation, Exchange Rates, and Interest Rates on Financial Distress

The results show that inflation, exchange rates, and interest rates simultaneously significantly influence financial distress. This confirms that H1 is acceptable. These results indicate that this research model can still be verified and applied in the future, with all independent variables simultaneously influencing the dependent variable. However, this research model certainly requires further partial explanation, as evidenced by the results of H2-H7.

4.5.2. Inflation on Financial Distress

H2 is rejected based on inflation not having an effect on financial distress in manufacturing companies from 2020 to 2024 because the significance $0.1945 > 0.05$. As a result of this finding, the fluctuations in the inflation rate will not provide a clear and reliable cue for indicating whether any company will experience bankruptcy. Manufacturing Firms listed in the IDX usually have strong adaptive capacities (operational, renegotiation with suppliers, or innovating their products at the time of rising inflation, and risk management capacity. The adaptability of these strategies allows them to relieve the adverse effects of inflation, such that, for financial stability, they are not

fundamentally damaging. In addition, it takes even longer for the inflation effect to fully manifest, especially in the short term, where companies still have their cash reserve or rely on internal financing.

As per the Keynesian theory of inflation, increasing production costs and decreasing purchasing power will affect the condition of corporate finance. And yet during the period in which this study was carried out, inflation stayed beneath 10%, meaning it had not generated big economic imbalances that might impact corporate bottom lines. Inflation was also still in a safe corridor, supported by the effectiveness of Bank Indonesia's monetary policy. The result of this study is in line with other studies by (Wafi et al., 2021), (Saputra & Kusumastuti, 2023), and (Sidharta, 2023), which show that inflation has little effect on financial distress in Indonesian manufacturing firms. Moderate inflation rates mute the effects of inflation on corporate financial health. The reason for these results lies in the intensive use of domestic resources and the inelastic demand for manufactured products. The former means that corporate profits either continue unchanged despite changes in prices, while the latter means that profits go down. However, (Ulaya & Nurfauziah, 2022) contradicts the findings because she believes that variables such as research period, sample characteristics, and corporate capital structure composition may also determine the relationship between inflation and financial distress.

4.5.3. Exchange Rates on Financial Distress

The analysis result shows that the exchange rate affects financial distress significantly in manufacturing companies from 2020 until 2024 ($p = 0.0288 < 0.05$). Hence, H3 is accepted that rupiah fluctuations have the ability to predict corporate financial distress risks. This important result cannot be separated from the fact that domestic manufacturing companies are highly dependent on imports. A declining rupiah exchange rate increases the cost of imports and produces costs, causing a squeeze in its profit margins, resulting in the company's inability to meet financial obligations. Firms with foreign currency-denominated loans feel a more acute impact because their debt burdens swell. Uncertainty surrounding exchange rates induces uncertainty for foreign investors, complicating access to external financing. From a Keynesian perspective, exchange rate volatility induces uncertainty that disrupts business planning and can lead to financial distress. While Bank Indonesia makes every effort to control it, the volatility of the exchange rates during the period of this research is significant enough that it influences the financial condition of firms in the manufacturing sectors, which are sensitive to input costs. These study results are in line with (Ulaya & Nurfauziah, 2022), but different from (Natasa, 2023), who found that the exchange rate didn't matter due to (hedging³⁵). This contradiction signifies that, indeed, the role of an exchange rate is dependent on context. Based on this research, manufacturing companies might not have even optimized their hedging strategies yet, meaning they don't have an exchange rate predicted variable for financial distress predictions.

4.5.4. Interest Rates on Financial Distress

The interest rate did not significantly affect financial distress during 2020–2024 in manufacturing companies based on regression analysis ($p = 0.1645 > 0.05$). Therefore, we reject H4 since the interest rate change does not predict the risk of corporate financial distress. There are several reasons for the relatively insignificant effect of interest rates on financial distress found in this study. Manufacturing firms listed on the stock exchange mostly take out fixed-rate loans, so when benchmark interest rates go up, their interest burden doesn't automatically have to rise in tandem. Moreover, not all companies are externally financed, and those with strong capital structures,

where they have either equity or retained earnings backing them up, are relatively resilient to interest rate changes. Moreover, a company's financial conditions are subject to indirect effects of interest rates, which take time to materialize. The post-pandemic transition period of 2020–2024 was also one defined by low interest rate policies, leading to relatively light interest burdens in relative terms, as firms were not pushed into financial distress due to interest. According to Keynesian theory, interest rates affect investment and consumption in theory and can cause the cost of capital to ignite financial distress. In practice, though, this effect can be countered with strong funding structures, fixed-rate loan contracts, and companies' ability to adapt. Keynes also stressed expectations: companies usually do not change their investment behaviour that radically if they think that a hike in interest rates will be temporary. This finding reinforces earlier studies exploring the lack of relationship between interest rates and financial distress (Kurniasanti & Musdholifah, 2018); (Suriani et al., 2024); (Ulaya & Nurfauziah, 2022); (Natasa, 2023). Conversely, (Saputra & Kusumastuti, 2023) and (Wafi et al., 2021) reported a strong influence, which is contrary to the findings of this study. The mismatch renders the effects of interest rates not applicable, but rather highly dependent on the specificities of capital structure and reliance on interest-bearing debt for financing. In the case of manufacturing companies in this study, the level of reliance on interest-bearing debt was indeed likely relatively low, and therefore interest rates were unlikely to be a primary determinant for financial distress.

4.5.5. The Moderating of Firm Size on the Inflation Influence on Financial Distress

H5 is not supported since the research results show that the moderation effect of firm size on the correlation between inflation and financial distress was insignificant ($p = 0.2936 > 0.05$). This holds true across organizations of all sizes. The reason why these have never been able to intercede is that inflation is a structural problem in every kind of business, with no exception for either side. When consumer purchasing power drops and production costs rise, both wider shops and SMEs feel the consequences. Small companies are not automatically more resilient than large ones with all the resources, because operational complexity can be a hard problem. The research data showed inflation at a manageable level, and thus pressure was not high enough to cause a separation in resiliency between company-size sets during these times. Keynesian theory focuses on the role of government intervention and fiscal and monetary policies. The uniform impact of inflation across different scales of business is attributed to the effective policies undertaken by Bank Indonesia in controlling inflation. Based on the context of systemic inflation, this research found no moderating effect of firm size, which is also consistent with the results of (Sopian & Rahayu, 2017). In terms of financial resilience, large companies are often seen as better able to cope with economic downturns, but the evidence suggests not significantly enough to dampen out controlled inflation. Therefore, management can no longer use company size as an automatic defense mechanism in the face of inflationary pressures.

4.5.6. The Moderating Firm Size on the Exchange Rates Influence on Financial Distress

These results suggest that the exchange rate influence on financial distress is moderated by firm size ($p = 0.0472 < 0.05$), therefore H6 is accepted. In contrast, large companies can hedge against exchange rate risk much more effectively than small ones. This moderating effect arises from the fact that larger firms have relatively better access to hedging instruments, supplier diversification, enhanced bargaining power when renegotiating contracts, foreign currency reserves that act as a liquidity buffer, and fewer financing constraints (i.e., less reliance on foreign-denominated debt). Conversely, small-scale businesses that lack resources are at a greater risk of exchange rate

fluctuations. The emergence of exchange rate uncertainty impedes investment decisions according to Keynesian theory, yet not all economic agents are equally able to weather it. Large companies are more resilient to volatility than small ones, provided they have sufficient liquidity to absorb shocks. These results are consistent with (Natasa, 2023), (Kurniasanti & Musdholifah, 2018), and (Judijanto et al., 2025), who affirm that large companies have greater resilience to exchange rate fluctuations. Thus, this finding empirically proves that firm size moderates the effect of the exchange rate on financial distress, implying the need for greater vigilance among small companies regarding exchange rate risk.

4.5.7. The Moderating Firm Size on the Interest Rates Influence on Financial Distress

The findings indicate that firm size does not moderate the interest rates effect on financial distress ($p = 0.5944 > 0.05$), thus H7 is rejected. Company scale does not influence this relationship. This inability occurs because interest rates are comprehensive and affect all companies with loans, regardless of business scale. Although large companies have access to alternative funding sources such as bonds, the process is not instantaneous, and they also have substantially larger total debt, so the increase in interest expenses in absolute terms remains significant. Many companies, both large and small, use floating-rate loans that are directly impacted when the benchmark interest rate rises. Since the interest rates were stable during the research period, the pressure was not significant enough to create differences in resilience between groups of companies grouped by size. In the Neo Keynesian mindset, while interest rates influence investment and consumption, Bank Indonesia's slow but sure monetary policy allowed companies to adapt time-wise, which avoided disruptive effects. Expectations also matter; if interest rate hikes have been expected, businesses can adjust sooner. Similar to (Ulaya & Nurfauziah, 2022) and (Sidharta, 2023), the results of this study suggest that the advantages that large companies gain from their capital structure are so weak that they cannot moderate interest rates with financial distress. This reveals that interest rate sensitivity is not a function of firm size, but rather of the degree to which a firm depends on outside financing. So companies, big or small, are equally at risk if they have a high debt exposure.

5. CONCLUSIONS

The result presented above concludes that Inflation, the exchange rates, and interest rates simultaneously affect financial distress in manufacturing companies listed on IDX. However, partially, Inflation does not affect financial distress. This is because inflation fluctuations during the research period remained at a controlled level, enabling companies to make strategic adjustments through operational efficiency and product innovation to mitigate the impact on financial stability.

Furthermore, the exchange rate affects financial distress significantly. This is because exchange rate movements, most notably the depreciation of the rupiah, make imported raw materials more costly and increase foreign-currency debt costs, which eventually weigh on corporate earnings and cash flows. On the other hand, Interest rates do not affect financial distress. It shows that most enterprises have applied for fixed-rate loans and are less reliant on external financing, so changes in the benchmark interest rate do not directly drive an increase in interest expenses.

For the moderation, firm size does not moderate the inflation on financial distress. This suggests that inflation is the systemic macroeconomic outcome, and its disruption is homogeneous across all scales of companies, and it cannot be effectively mitigated by simply having a larger

business scale. On the other hand, firm size moderates the exchange rate on financial distress. This demonstrates that large-scale companies have superior capacity in managing exchange rate risk through better access to hedging instruments, market diversification, and strong bargaining power in contract renegotiations. Finally, firm size does not moderate the interest rates on financial distress. This is because the impact of interest rate increases directly affects the interest expenses of all companies with loans, regardless of their business scale, rendering the structural advantages of large companies insufficient to significantly mitigate this effect.

From the research findings and discussion, the researcher offers several recommendations. Future research is advised to expand the scope to include not only manufacturing companies but also financial, property, and trade sectors, to obtain a more comprehensive overview of the macroeconomic variables' influence on financial distress across sectors. It also may employ alternative proxies for measuring financial distress, such as the Altman Z-Score, Springate, or Zmijewski models, and consider extending the observation period to enhance the generalizability of the research findings. Furthermore, future research could also incorporate additional macroeconomic variables, such as gross domestic product or money supply, as well as other moderating or mediating variables like capital structure, liquidity, or corporate governance, to enrich the understanding of factors influencing financial distress.

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