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The Impact of Government Guarantees on Bond Spreads: an Empirical Study of State-Owned Enterprises in Southeast Asia

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ABSTRACT

The recent financial distress among construction firms in Southeast Asia, including Indonesia's state-owned enterprises (BUMN Karya), underscores significant challenges in infrastructure financing, particularly in relation to elevated borrowing costs and constrained access to capital markets. In this context, government guarantees are commonly perceived as mechanisms to mitigate credit risk and compress bond spreads, defined as the yield differential between corporate bonds and risk-free benchmarks such as sovereign bonds. This study investigates the effect of government guarantees on bond spreads among BUMN Karya, focusing on Indonesia as a case study. It also examines the moderating role of the Altman Z-score as a proxy for corporate financial stability. Employing a quantitative approach with secondary data spanning 2017 to 2023, the analysis utilizes a multiple linear regression model. The findings reveal that government guarantees do not exert a statistically significant influence on bond spreads, nor does the Altman Z-score significantly moderate this relationship. These results suggest that, despite theoretical expectations, investors continue to perceive BUMN Karya bonds as high-risk instruments, largely due to macroeconomic uncertainties such as inflationary pressures and restrictive monetary policies. The study highlights the need for enhanced governance, greater transparency, and macroeconomic stability to bolster the credibility and effectiveness of government guarantee schemes in reducing corporate borrowing costs.

KEYWORDS *Bond spreads, guarantee, government, impact.*

INTRODUCTION

The phenomenon of the financial crisis that has affected several companies in Southeast Asia illustrates the significant challenges faced by the construction sector, particularly in terms of liquidity and access to financing. In Indonesia, PT Wijaya Karya (WIKA), one of the largest construction SOEs, recorded a net loss of IDR 7.12 trillion in 2023—an increase compared to IDR 59.59 billion in the previous year. This loss was mainly due to increased financial expenses and a decrease in asset value of IDR 3.26 trillion, despite the company's revenue reaching

IDR 22.53 trillion, with the infrastructure and building segments as the main contributors (Arief & Sukarno, 2023; Emmanuel, 2023).

Similar conditions have been observed in other Southeast Asian countries. In Thailand, companies such as Nawarat Patanakarn and Energy Absolute have experienced credit rating downgrades and defaults due to weakening demand for projects and tightening bank credit. In Vietnam, the default rate of construction sector bonds is projected to reach 30% by 2024, particularly in the property sector. Malaysia has also faced similar impacts, with delays in foreign debt payments by large companies such as Country Garden worth USD 11 billion. These cases highlight significant structural pressures on the construction sector, particularly concerning the financing of large-scale projects and debt management (Damoah & Kumi, 2018; Gatti, 2023; He, Zhang, & Wei, 2020; Huo et al., 2018; Shan, Hwang, & Zhu, 2017).

In Indonesia, construction SOEs such as WIKA, Hutama Karya, and PP play a strategic role in national infrastructure development (Febrianto Arif Wibowo, Satria, Gaol, & Indrawan, 2024; Richo Wibowo, 2024). Strategic projects such as the Trans-Java and Trans-Sumatra toll roads, ports, and airports not only stimulate economic growth in remote areas but also strengthen national connectivity. However, the heavy reliance on bond financing and high market risks make government guarantees an essential instrument in maintaining investor confidence and funding stability (Lee & Zhong, 2015; Nassr & Wehinger, 2015; Okeke, Bakare, & Achumie, 2024; Onabowale, 2024).

In this context, the concept of bond spreads has become particularly relevant. A bond spread is the difference between the yield of a corporate bond and that of a government bond with a similar maturity, reflecting the level of credit risk investors perceive toward the issuer. The higher the spread, the greater the borrowing costs the company must bear, as investors demand greater compensation for the risk of default. Therefore, bond spreads are often used as a key indicator in assessing the market's risk perception of an entity or sector.

The institutional structure of SOEs in Indonesia presents a unique dynamic, in which the government plays a dual role as both owner and regulator (Apriliyanti & Kristiansen, 2019; Trihatmoko & Susilo, 2023). This situation creates ambiguity regarding risk perception and accountability. Government guarantees can be seen as a form of state commitment but also pose a risk of moral hazard if not supported by sound governance practices. It is therefore crucial to understand how government guarantees influence investor behavior and bond market dynamics, especially in the construction sector, which is characterized by a high-risk profile and heavy reliance on public projects.

Previous literature suggests that government guarantees, both explicit and implicit, can lower bond spreads by reducing investors' risk perceptions (Agarwal

& Hauswald, 2010; Borisova et al., 2015; Huang et al., 2020). A study by Zhang et al. (2022) in China found that implicit guarantees significantly reduce bond credit spreads, especially in infrastructure projects in underdeveloped regions. However, most research has focused on developed economies or mature financial markets, while in-depth studies on the construction sector—particularly state-owned enterprises in Southeast Asia—remain limited.

Indonesia's context differs from China's more centralized economic and regulatory system. The Indonesian government has established institutions such as the Indonesia Infrastructure Guarantee Fund (IIGF), which provides project guarantees under the Public-Private Partnership (PPP) scheme, though its implementation remains limited and uneven across construction projects. Furthermore, Indonesia's construction sector faces major challenges in the form of high capital costs, regulatory complexity, and limited access to innovative financing instruments, particularly for developers outside metropolitan areas.

Differences in research findings regarding the effectiveness of government guarantees in reducing bond spreads may stem from variations in institutional structures, perceptions of government credibility, and the scope and design of guarantee policies. Factors such as fiscal stability, economic fluctuations, and policy uncertainty also influence the effectiveness of guarantees in mitigating risks and attracting investment in Indonesia.

Considering this complexity, this study aims to empirically and comparatively examine the influence of government guarantees on the bond spreads of state-owned enterprises in the construction sector across Southeast Asia, focusing primarily on Indonesia as a case study. The results of this research are expected to make a significant contribution to policymakers, market participants, and the academic community in formulating more effective, sustainable, and risk-based infrastructure financing strategies.

The research novelty lies in three dimensions. First, it provides a comprehensive empirical analysis of government guarantee effectiveness specifically within BUMN Karya in Southeast Asia, filling a major geographical and sectoral gap in the literature. Second, it introduces the Altman Z-score as a moderating variable to evaluate the conditional effectiveness of government guarantees based on corporate financial health, offering nuanced insights into when and under what conditions guarantees may be more or less effective. Third, it contextualizes findings within Indonesia's unique institutional framework—characterized by the dual role of government ownership and regulation—thereby contributing theoretically to the understanding of how ownership ambiguity and regulatory overlap shape guarantee credibility and market perception.

This research aims to address the literature gap on the effects of government guarantees on bond spreads in SOEs within Indonesia's construction sector. It

employs a quantitative approach using secondary data drawn from financial statements and bond market records covering the 2017–2023 period. The analysis is conducted through a multiple linear regression model to test the relationship between government guarantees, bond spreads, and supporting variables such as the Altman Z-score, which represents the financial stability of the company.

The research benefits are multifaceted and cater to multiple stakeholder groups. For academic researchers, this study complements existing literature on the influence of government guarantees on bond spreads, particularly in the context of developing economies such as Indonesia. By focusing on the institutional characteristics of state-owned construction enterprises, the study offers fresh theoretical insights into how guarantees affect credit risk perceptions in emerging markets. It enriches understanding of concepts such as too big to fail and soft budget constraint, as well as their relevance and applicability to the infrastructure sector in Southeast Asia. For investors, the findings provide empirical evidence as a reference framework for evaluating bonds backed by corporate or government guarantees, especially in identifying and assessing potential moral hazard risks. The results enable more informed investment decisions by clarifying the distinction between actual and perceived risk-mitigation effects of government guarantees. For policymakers and SOEs in Southeast Asia, this study offers actionable insights for using government guarantees as a strategic instrument to reduce borrowing costs. The research illustrates the conditions under which guarantees are effective or ineffective, guiding policy design to improve guarantee credibility without compromising long-term financial sustainability. Moreover, it provides direction for enhancing governance frameworks, transparency mechanisms, and macroeconomic policy coordination to optimize the effectiveness of government guarantee schemes in infrastructure financing.

RESEARCH METHOD

This study employed a quantitative method with an explanatory approach to analyze the relationship between the variables studied. The quantitative method was used to examine a specific population or sample through data collection with statistical research instruments to test predetermined hypotheses (Winarno, 2023). The research approach was descriptive and verifiable, aiming to analyze the relationship and impact of one variable on another. The descriptive approach sought to identify the value of a variable without linking it to others, while the verifiable approach tested the research hypothesis using statistical analysis to determine whether the hypothesis was accepted or rejected (Winarno, 2023).

The population consisted of Karya state-owned enterprises (SOEs) in Southeast Asia. The study used a purposive sampling method with specific criteria, namely BUMN Karya companies that issued bonds and companies with adequate

historical data relevant to the research indicators. The data used in this study were secondary data obtained from documents, reports, and other related literature. The data included annual reports, financial statements, and references from books, research journals, and theses related to the research topic. The data sources were derived from company websites providing annual reports and financial statements, as well as supporting references from relevant books, journals, and theses.

Data collection was conducted through two main techniques: literature study and documentation study. The literature study involved analyzing books, journals, and previous research relevant to the topic to build a theoretical foundation. The documentation study gathered data from published company documents, such as annual reports and financial statements available on official company websites. The study analyzed factors affecting firm value using statistical testing with the EViews 12 program.

Descriptive statistical analysis was applied to present data numerically through measures such as the mean, standard deviation, variance, maximum, and minimum values of the studied variables (Winarno, 2023). Panel data analysis was also performed using time-series and cross-sectional data. The panel regression model was estimated through general-effect, fixed-effect, and random-effect methods, and the best estimation model was selected through appropriate statistical testing (Winarno, 2023).

The classical assumption test was conducted to evaluate the validity of the regression model. This test included checking for normality, multicollinearity, heteroskedasticity, and autocorrelation to ensure that the model met the required assumptions. Hypothesis testing was then carried out to assess the significance of the regression coefficients. Decisions were made by comparing the t-statistic to the critical t-value or by comparing the probability value to the established level of significance.

RESULT AND DISCUSSION

Data Processing

This research was carried out using data from 2017 to 2023. After checking the sample financial statements that have complete financial statements and meet the research criteria as many as 18, in this study there are 25 outlier data for a total of 120 observations.

Descriptive Statistical Analysis

This study used the EViews 12 software to analyze the regression model. As part of the analysis, descriptive statistics are used to provide an overview of the characteristics of each variable in the sample. This analysis includes the size of concentration (such as mean and median), the size of the spread (such as standard

deviation), and the distribution of the data (such as skewness and kurtosis), thus providing a comprehensive initial understanding of the data used in this study.

The results of the information provided are the mean value (average value), minimum value (smallest value), maximum value (largest value) and standard deviation of each variable. Based on the results of the descriptive statistical test using Eviews 12, the results were obtained as in table 1 Descriptive Statistics as follows:

Table 1. Descriptive Statistics

	SO	JP	THAT	GDP	SB	LEV	LENGTH	UP
Mean	1.638506	0.290000	1.150306	2.879000	3.181150	54.07608	3.181261	16.76087
Maximum	3.830200	1.000000	8.971100	9.700000	6.000000	161.4751	29.48328	23.89229
Minimum	0.684300	0.000000	-3.058900	-6.100000	0.500000	0.323543	-67.45420	8.023552
Std. Dev.	0.565685	0.456048	1.672799	3.667584	1.496500	31.54094	9.625009	4.695371
Obs	100	100	100	100	100	100	100	100

Source: Outputs Eviews, 2025

Based on the descriptive statistical table, the dependent variable in this study is the bond spread (SO). The average value for the SO is 1.638506, which indicates that the average bond spread issued by BUMN Karya is at a moderate level. The maximum value was recorded at 3.830200, which indicates the presence of bonds with very high spreads, while the minimum value at 0.684300 indicates the presence of bonds with lower spreads. The standard deviation value of 0.565685 indicates considerable variation between bonds, which indicates that other factors besides government guarantees, such as economic conditions and financial stability of the company, also greatly affect the spread level. This indicates that despite the government's guarantee, the spreads of SOE Karya bonds remain varied, indicating that investors take into account many factors in determining the risk and cost of borrowing.

Meanwhile, the independent variable in this study is government guarantees (JP). The average value for JP is 0.290000, which indicates that most of the companies in the sample obtain government guarantees at a relatively low rate (about 29% of the maximum value). A maximum value of 1.000000 indicates a company that has a full guarantee, while a minimum value of 0.000000 indicates a company that does not receive a government guarantee at all. The standard deviation value of 0.450806 indicates a considerable variation in the level of government guarantees, which indicates irregularities in the implementation of the guarantees.

The moderation variable in this study is the Altman Z Score (AZ), which is used to measure the financial stability of the company. The average AZ value of 1.150306 indicates that most of the companies in the sample are at a low level of financial stability, below the threshold of 2.99 which signals the risk of bankruptcy. The maximum value of AZ recorded at 8.971100 indicates the existence of a company with excellent financial stability, while the minimum value of -3.058900

indicates the existence of a company with a high risk of bankruptcy. With a standard deviation of 1.672799, there is a significant variation in the financial stability of the companies in the sample. This means that the impact of government guarantees on bond spreads can vary depending on the financial condition of each company, with companies with higher financial stability likely to be more seen as safe by investors despite variations in the level of government guarantees.

Panel Data Analysis

In using panel data, researchers must choose the most appropriate or best panel data model to be used in this study. There are three approaches to the panel data model, namely common effect, fixed effect, and random effect. To determine the most appropriate model, certain tests can be carried out in accordance with the characteristics of the data used. The Chow test is used to determine whether the study uses a common effect or fixed effect model. The Hausman test to determine whether the study uses a random effect or fixed effect model. And the Lagrange Multiplier Test is used to determine whether the research uses a common effect or random effect model.

Chow Test

The Chow test is used in determining whether a fixed effect model or a common effect model. The following are the results of the common effect model test in this study.

Table 2. Chow Test

Test Summary	Statistic	d.f.	Prob.
Cross-section F	2.123788	(17,100)	0.0111
Cross-section Chi-square	38.531497	17	0.0021

Based on this, it can be seen that the cross probability of F and Chi Square is 0.0111 and 0.0021. The value is greater than α (5) so that the model selected in the model chow test is a fixed effect.

Hausman Test

The Hausman test is used in determining whether the model is a fixed effect or a random effect. The following are the results of Hausman's test in this study:

Table 3. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.687545	7	0.6980

Based on this, it can be seen that the probability of cross section random is 0.6980. This value is greater than α (5) so that the model selected in the Hausman test is a random effect.

Uji Lagrange Multiplier

The Lagrange Multiplier test is used to determine whether the model is a common effect or random effect. The following are the results of the lagrange multiplier test in this study:

Table 4. Test Langrange Multiplier

	Prob.
Cross-section Breusch-Pagan	0.0330

Based on the table, it can be seen that the probability of Breusch-Pagan cross section for 0.0330. The value is smaller than α (5%) so the model used in this study is a random effect.

Based on the results of chow, hausman, and lagrange, the best selected model multiplier is a random effect.

Classic Assumption Test

Classical assumption testing is a test of the accuracy of regression models in secondary data source research. The test of assumptions that are in classical assumptions is the assumption of normal data, multicolleniarity, assumption of heteroscedasticity, and assumption of autocorrelation.

Normality Test

The normality test is used to determine whether the data used is normally distributed and can be used on parametric statistics. With this test, it is possible to find out whether the data is normally distributed and avoid bias or errors (Ghozali, 2018). To find out whether the data used has been distributed normally, a comparison of the probability value of the jarque-bera on the output of eviews is carried out. If the probability of jarque-bera is >0.05, then the residual data is distributed normally. The following are the results of the normality test that has been carried out using eviews 12.

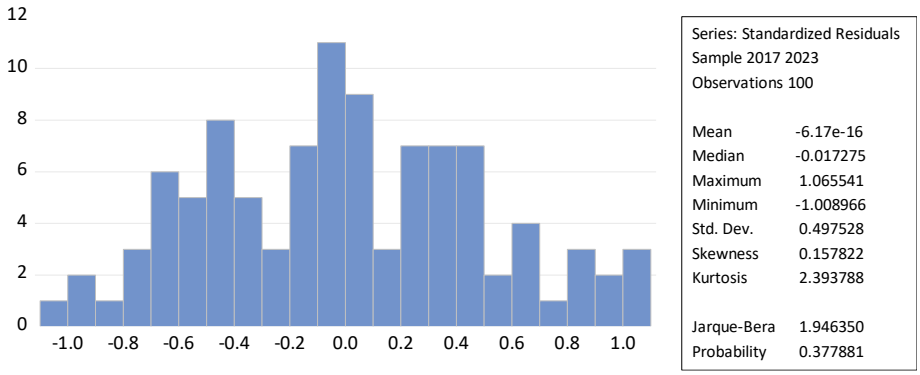


Figure 1. Normality Test

In testing the normality of the data using the Jarque-Bera test, a probability value (p-value) greater than the established significance level (e.g. 0.05) indicates that there is not enough evidence to reject the null (H_0) hypothesis that the data is normally distributed. The probability value of jarque-bera in this study is greater than the significance value of 0.05 so it can be concluded that the data is not normally distributed.

Multicollinearity Test

The multicollinearity test is a test that is carried out to find out whether there is a correlation relationship between independent variables in a regression model. The method used in detecting multicollinearity is to look at the correlation coefficient between independent variables in the output correlation matrix. The regression model has a multicollinearity problem when the correlation coefficient is greater than 0.9. The following are the results of the multicollinearity test that has been carried out in this study:

Table 5. Multicollinearity Test

	JP	GDP	SB	LEV	LENGTH	UP
JP	1.000000	-0.082419	0.029646	0.040992	-0.050816	-0.083044
GDP	-0.082419	1.000000	0.084213	0.021667	-0.242023	0.525009
SB	0.029646	0.084213	1.000000	0.390582	-0.130301	0.173810
LEV	0.040992	0.021667	0.390582	1.000000	0.119319	0.037935
LENGTH	-0.050816	-0.242023	-0.130301	0.119319	1.000000	-0.373079
UP	-0.083044	0.525009	0.173810	0.037935	-0.373079	1.000000

Based on the results of the multicollinearity test, it shows that the correlation matrix between independent variables has a correlation below 0.90, so it can be concluded that this research model does not occur multicollinearity between independent variables.

Heteroscedasticity Test

The heterokedasticity test aims to find out whether there is an inequality of variance from one residual observation to another or referred to as unequal or nonconstant variance. To find out if there is a heteroscedasticity problem in the regression model, a park test was performed on eviews 12. If the probability value of each independent variable is >0.05, then there are no symptoms of heteroscedasticity in the regression model, and vice versa. The following are the results of the heteroscedasticity test that has been carried out:

Table 6. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.311127	0.178312	1.744847	0.0844
JP	-0.122411	0.091259	-1.341364	0.1831
JP*AZ	-0.015698	0.063631	-0.246706	0.8057
GDP	0.005559	0.008611	0.645621	0.5201
SB	-0.019569	0.023388	-0.836728	0.4049
LEV	-0.001124	0.001166	-0.963944	0.3376
LENGTH	-0.001490	0.003434	-0.433728	0.6655
UP	0.014460	0.007807	1.852278	0.0672

All independents used have a probability value of > 0.05. So it can be concluded that in this model there is no heteroscedasticity.

Autocorrelation Test

The autocorrelation test aims to assess the correlation relationship that occurs between the interference variables of one observation and another using the Durbin Watson test. The provision in determining this test is to look at the critical values

of dL and dU and then compare it to Durbin Watson. The critical values dL and dU can be calculated using the number of observations (n) and the number of independent variables (k). Furthermore, the critical values dL and dU can be found in the Durbin Watson statistical table. Here are the results of the autocorrelation test:

Table 7. Autocorrelation Results

Statistics Durbin-Watson			
Durbin-Watson stat			1.960839
n	k	dL	of the
100	7	1.5279	1.8262

Based on the results of the Durbin-Watson test, a DW value of 1.960839 was obtained. This value is compared to the upper limit (dU) and lower limit (dL) values of the Durbin-Watson table, which are determined based on the number of observations (n) and the number of independent variables (k). For example, if dU is 1.8262 and 4 - dU = 2.1724, then the value of DW is between dU and 4 - dU, which is 1.8262 < 1.960839 < 2.1738 so that it can be concluded that there is no autocorrelation.

Multiple Regression Analysis

Test F

The F test is a statistical test that functions to test the influence of independent variables on the bound variables together, the following are the results of the F test:

Table 8. Test Results F

F-statistic	3.847594
Prob(F-statistic)	0.001031

Based on the image above displays the prob. The F-static for the regression model is 0.001031 where the value is less than α (5%). So this shows that the model in this study is fit and together (simultaneously) independent variables affect dependents.

Coefficient of Determination

The coefficient of determination (R2) is a measure of the model's ability to explain the variation of dependent variables. The determination coefficient is used to find out how well a statistical model predicts an outcome.

Table 9. Determination Coefficient Results

R-squared	0.226456
Adjusted R-squared	0.167600

The R-Square value of the regression model is above 22.6%, which means that the independent variables studied in this study are only able to explain 22.6% where the rest is explained by factors outside the research model.

Financial performance trend

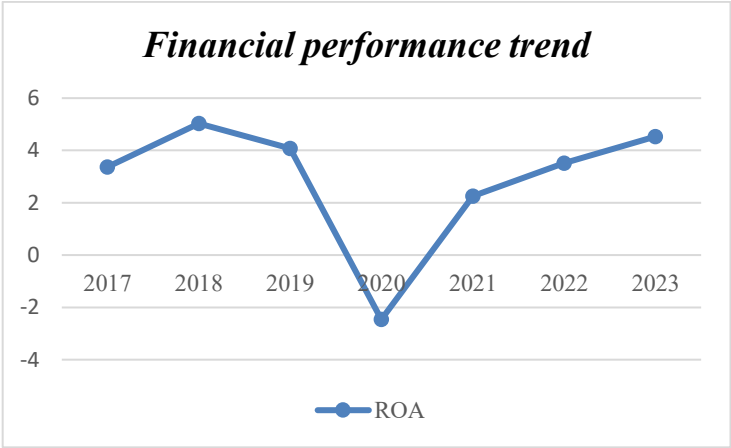
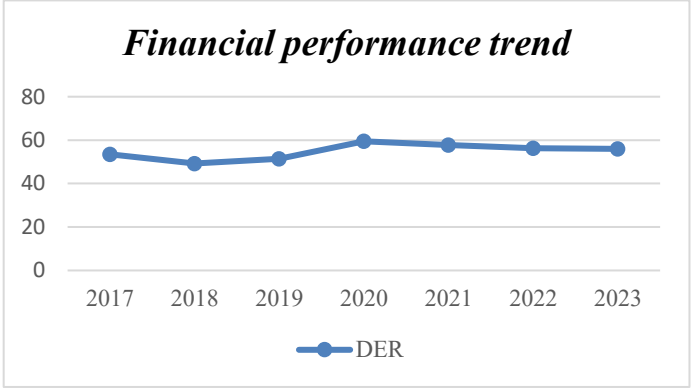


Figure 2. Financial Performance Trend ROA



Gambar 3. Financial Performance Trend DER

The company's financial performance as reflected in the Return on Assets (ROA) and Debt to Equity Ratio (DER) ratios during the period 2017 to 2023 shows important dynamics in understanding the context of the influence of government guarantees on bond spreads. ROA experienced significant fluctuations, increasing from 3.36% in 2017 to 5.03% in 2018, before plummeting to -2.46% in 2020 due to economic pressures triggered by the COVID-19 pandemic. Post-pandemic, ROA began to recover gradually and reached 4.53% in 2023. On the other hand, DER remains high and consistently above 50%, signaling the dominance of debt-based financing in the company's capital structure. This high debt ratio should make the role of government guarantees even more crucial to reduce credit risk as reflected in bond spreads.

Theoretically, government guarantees are expected to lower bond spreads because they signal to investors that the risk of default will be borne by the state. This is reinforced by empirical findings, such as the study by Cao et al. (2025) in China, which show that government support significantly narrows bond spreads during periods of economic uncertainty. However, the results of this study show

that government guarantees do not have a significant effect on bond spreads in SOEs in the construction sector in Indonesia.

This difference in results can be justified by a number of contextual factors. First, government guarantee schemes in Indonesia have not been implemented widely and systematically, and are often limited to specific projects within the framework of Public-Private Partnership (PPP), rather than to the company's overall debt obligations. Second, the level of investor confidence in the effectiveness of government intervention in Indonesia still varies, mainly due to the ambiguity of the state's role as an owner and regulator, as well as concerns about moral hazard and governance. Third, macroeconomic volatility and unstable fiscal policies have also limited the effectiveness of collateral in reducing investor risk perception.

Thus, the results of this study indicate that the existence of government guarantees alone is not enough to significantly reduce bond spreads, in the absence of institutional support, strong governance, and clarity in the implementation of guarantee policies. These findings reinforce the importance of a holistic approach in designing public financing policies, which not only rely on guarantees, but also pay attention to institutional credibility and macroeconomic stability as prerequisites for fostering market confidence.

T Test

This study uses a multiple regression equation model. Multiple regression equation models are models that have more than one independent variable that affects the dependent variable (Gujarati & Porter, 2015). The following is an analysis of the regression equation in this study:

Table 10. T Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.020745	0.288966	6.993022	0.0000
JP	-0.059127	0.158641	-0.372710	0.7102
JP*AZ	-0.061480	0.111333	-0.552216	0.5821
GDP	0.035574	0.016248	2.189443	0.0311
SB	-0.092037	0.041455	-2.220147	0.0289
LEV	0.000168	0.001964	0.085475	0.9321
LENGTH	-0.024630	0.006268	-3.929545	0.0002
UP	-0.005296	0.012495	-0.423849	0.6727

Source: Output Eviews, 2025

Based on the image above, it can be seen that the regression coefficient and statistical probability value t of the interaction variable between the government guarantee variable (X1) and the bond spread are -0.059127 and 0.7102. The probability value is greater than 0.05. This shows that the government guarantee variable has no effect on bond spreads.

Based on previous research, some studies have shown that the effect of government guarantees on bond spreads is not always significant. For example, in

a study by Agarwal and Hauswald (2010), this study found that the information distance between lenders and borrowers has a greater influence on bond spreads compared to government guarantees. These findings suggest that the proximity of information and a high level of transparency can significantly lower borrowing costs, even in the absence of strong government guarantees. Thus, while government guarantees can reduce the perception of credit risk, factors such as access to information and transparency still play a crucial role in determining bond spreads.

Similarly, in a study by Borisova et al. (2015), this study concluded that although government ownership can lower the cost of corporate debt, the influence is more significant in countries with stable markets and clear policies. In contrast, in countries with high economic uncertainty or volatility, such as some developing countries, government guarantees are not always effective in significantly reducing bond spreads because investors still consider them risky. Huang et al. (2020) also found that although government support can influence investor decisions, perceptions of fiscal policy and the stability of the country still play an important role in determining spreads.

In addition, Zhang et al. (2022) stated that in China, despite implicit assurances from the government, other variables such as market conditions and inflation rates have more influence on bond spreads. This reinforces the argument that government guarantees can serve to reduce spreads in some cases, but macroeconomic factors and global uncertainty often dominate investment decisions more.

Based on previous research, it is concluded that although government guarantees have the potential to lower bond spreads, their effectiveness is highly dependent on other factors, such as economic stability, global interest rates, inflation, and market perceptions of the government. In conditions of economic uncertainty or high volatility, as is the case in some developing countries, government guarantees are not always effective in significantly reducing bond spreads because investors still consider them risky. Therefore, while government guarantees are expected to lower bond spreads, their effectiveness can be disrupted by external uncertainties and internal issues, such as a lack of transparency and good governance, which ultimately reduce investor confidence.

As an illustration, changes in interest rate policy by the United States central bank (Federal Reserve) can increase global yields, which has a direct impact on rising bond spreads in ASEAN countries, including Indonesia, despite government guarantees. In addition, the effectiveness of government guarantees is highly determined by the level of investor confidence in the government's ability and seriousness in fulfilling the guarantee commitments. If the guarantee is only

symbolic or not accompanied by a clear and credible mechanism, investors will still set a high risk premium.

Internal factors such as lack of transparency in project and debt management, weak corporate governance, and unclear implementation of guarantee schemes can also hinder the role of guarantees in lowering spreads. In this context, the results of the study strengthen the argument that government guarantees need to be supported by good governance, a clear institutional framework, and macroeconomic stability to be truly effective in increasing investor confidence and lowering funding costs. Without these supporting conditions, government guarantees are unlikely to be strong enough to overcome the perception of high market risk.

Based on the regression results, the coefficient of interaction between the government guarantee variable (X1) and the Altman Z-Score (Z) on the bond spread was -0.061480 with a probability value of 0.5821, which is greater than the significance level of 0.05. This suggests that the Altman Z-Score does not significantly moderate the relationship between government guarantees and bond spreads. These findings are consistent with the study's main findings, which stated that government guarantees have no significant effect on bond spreads.

This phenomenon can be explained through the characteristics of the Altman Z-Score which focuses on historical financial ratios to assess the potential for bankruptcy. While this indicator is effective in measuring a company's financial stability, it does not fully capture the influence of external factors such as macroeconomic conditions, interest rate fluctuations, or policy uncertainty, which are precisely the main determinants of spreads in the context of emerging markets.

Nevertheless, the Altman Z-Score was still chosen as a moderation variable because it has proven to be relevant in assessing the risks of companies that have high leverage and dependence on external financing—a common characteristic of SOEs. Previous research, such as Zhang et al. (2022) and Borisova et al. (2015), has shown that although external factors play a large role, the internal stability of a company remains an important factor in determining credit risk and bond premiums. Therefore, although the Altman Z-Score does not show a significant moderation effect, its use remains valid in the context of this study as a proxy for corporate fundamental risk.

CONCLUSION

The empirical results of this study showed that government guarantees did not have a statistically significant effect on reducing bond spreads for state-owned construction enterprises (*BUMN Karya*) in Southeast Asia, particularly in Indonesia during 2017–2023. Despite theoretical expectations, the presence of explicit or implicit guarantees did not reduce investors' perceived credit risk, as reflected in bond yields, and the Altman Z-Score also showed no significant moderating effect.

Investor risk perception appeared to be more strongly influenced by external macroeconomic factors such as global interest rate volatility, inflationary pressures, and economic uncertainty. These findings suggest that in emerging markets characterized by institutional and macroeconomic instability, government guarantees alone are insufficient to lower funding costs without credible governance and transparent policies. Future research should qualitatively investigate how macroeconomic volatility and institutional credibility undermine the impact of guarantees, using interviews with investors and policymakers, and should expand the analysis by incorporating governance indicators, guarantee design features, and market sentiment measures, potentially through a mixed-methods or comparative case study approach across emerging economies.

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