

THE EFFECTIVENESS OF FOREIGN DEBT BASED ON SECTORS TOWARDS ECONOMIC GROWTH

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ABSTRACT

This study utilized knowledge of the utilization level of foreign loans based on economic growth areas. The metrology of foreign loan effectiveness was explained through the utilization by both the government and private sectors in foreign involvement. The primary zone was elucidated based on economic areas, while the growth percentage served as secondary and tertiary metrology of economic growth. Data was gathered through data sorting and downloading from the Central Bank's (Bank Indonesia) and Central Statistics Agency's websites. The research instrument employed was PLS SEM, with data management conducted using Smart PLS 3.0. The impact of the sectors showed a positive and significant effect on economic growth. On the other hand, the utilization of foreign loans demonstrated a significant but inverse impact on economic growth, as revealed by the output of the structural model estimation. Recommendations from the findings include expanding the production frontlines, which would be associated with an increase in the demand for services in the labor market. Additionally, the technical capabilities, particularly those aligned with the era of Society 5.0, need to be expanded and improved by job seekers. Furthermore, another suggestion involves converting short-term loan conventions into long-term periods, which would yield benefits in terms of utilization period. Finally, a recommendation is to reduce the usage of foreign loans by leveraging import mechanisms, aiming to meet the structural requirements domestically and contribute to the equitable growth of local production capacity.

Keywords: Foreign Debt, Economic Sectors, and Economic Growth.

INTRODUCTION

The phenomenon of utilizing foreign loans, especially in Indonesia, is seen as a unique essence for economists and the public alike. It becomes a subject of mass discussions when the government seeks external assistance as a strategy for Indonesia through debtor parties (Zainal & Mulyadi, 2009). The results of research and empirical studies conducted by economic experts provide analytical and exploratory insights into the evolution of foreign loan utilization and the relationship between investment and savings in theory, as detailed below (Malik et al., 2010).

Over the last five years, due to the Covid-19 pandemic, government debt has significantly increased. The government argues that the debt policy has effectively driven Indonesia's economic growth amidst various shocks. Indonesia's debt position has risen over the past five years, and this debt burden may become a challenge for any future ruling party. The debate over debt is like a recurring cycle during political years, where the performance of the incumbent government is often

criticized.

The debt-to-GDP ratio reached its highest point in 2021, accounting for 41% of the GDP. During the first year of the pandemic, the debt-to-GDP ratio was recorded at 36.68%. In 2022, as the pandemic started to ease, the debt-to-GDP ratio decreased to 38.65%. Efforts to bring down the debt-to-GDP ratio to 29.8% were achieved in 2019, equivalent to Rp 4.779.28 trillion. Thus, over the past five years, government borrowing as of April 2023 reached a ratio of 38.15% of the GDP, increasing by Rp 3,070.5 trillion.

Despite the increase in debt over the last five years, Finance Minister Sri Mulyani stated that the debt policy has effectively stimulated economic growth. Indonesia is one of the few G20 and Southeast Asian countries that experienced a greater increase in GDP compared to the rise in debt during the pandemic. While most other countries saw their debt rise higher than their GDP, Indonesia's GDP growth outpaced its increasing debt during the period of 2018-2022.

The effectiveness of Indonesia's debt is still better than some other developing countries in the region, such as India and Thailand, and even advanced countries like the United States, which face risks of default. Each additional dollar of debt during the last five years has resulted in a \$1.34 increase in Indonesia's GDP, indicating that Indonesia's increased debt has been productive and effective. The additional debt was needed to finance the surging expenditures during the pandemic. The management of debt is believed to be under control. Despite the pandemic, Indonesia's debt rating has not been downgraded, unlike most other countries facing negative projections. The increase in GDP should not be solely dependent on debt as it is not sustainable in the long term. However, considering the post-pandemic shock, where almost all economies collapsed, Indonesia's position is relatively good, as it managed to withstand the challenges.

The study of foreign loan utilization based on the 2012-2020 time frame shows that programs, projects, and other categories dominate the utilization. The utilization of foreign loans by private entities during the same period is dominated by working capital, investments, and financial returns, among others. Various studies have been conducted on the relationship between debt and economic growth. Some studies suggest a negative but significant relationship, while others show a positive and significant relationship. The effects of long-term loans on economic development can be challenging due to increased debt servicing costs, affecting fiscal responsibilities and national productivity.

The increase in foreign loans possessed by Indonesia has raised concerns among stakeholders, as it nears the maximum limit set by the Financial Audit Board of the Republic of Indonesia and the Constitution of the Republic of Indonesia No. 17 of 2003 Article 12 Paragraph 3, which limits the maximum debt to 60% of the Gross Domestic Product (GDP). The debt-to-GDP ratio during the 2012-2020 period was <37%. The potential impact could lead to economic devaluation, indicating that foreign loans could burden the national output. Studies have shown that a debt-to-GDP ratio exceeding 50% may indicate poor financial health for a country as it implies that foreign loans account for more than 50% of the national income (Zainal & Mulyadi, 2009).

METHDOS

The modeling is built on theoretical connections and utilizes quantitative research methods, where statistical instruments will provide answers to the study's development issues and initial hypotheses. Information is obtained through

calculations of Indonesia's total labor force, GDP, and constant prices based on the industries' period and the utilization of foreign and private loans from 2012 to 2020. The Central Statistics Agency and the Bank of Indonesia are used for searching information through the online platform using the link <https://www.bi.go.id>, specifically the publication titled "Statistik Efektivitas utang luar negeri Indonesia (SULNI)."

The study employs the PLS-SEM (Partial Least Squares-Structural Equation Modeling) methodology, managed by Smart PLS-SEM 3.0. Due to the limited sample size and weak theoretical foundations, the PLS-SEM is utilized to assist in exploring the directional effects or connections between constructs for forecasting purposes. A total of 48 observation samples are used, which is relatively small in this study, and the modeling will be explained through exploratory parameters. Based on the mentioned factors, the author believes that PLS-SEM is a suitable analytical tool for this research.

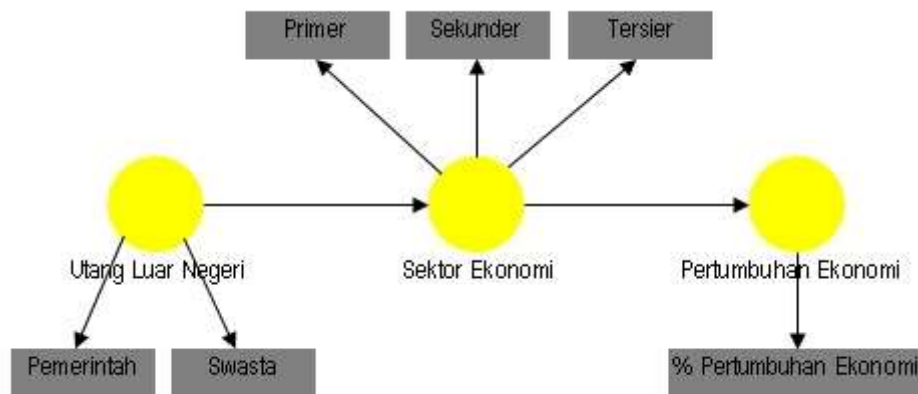


Figure 1. Research Model

The two interconnections of the included models are shown in the illustration above. The input and output models are represented in these interconnections, depicting the relationship between hidden factors and parameters. Upon observation, it can be seen that the connection between hidden factors and parameters is represented by arrows pointing from ellipses to boxes. According to Ghazali & Latan, (2015), the relationship between hidden factors and manifest factors (indicators) is reflective in nature. The estimation of the modeling will begin with the modeling calculation phase using the convergent and discriminant validity tests, involving various parameters within them. Afterward, the evaluation of the structural model is conducted, considering the R-Square values and significance tests.

Table 1. Criteria for Evaluating the Structural Measurement Model.

Parameter	Kriteria	Keterangan
<i>Loading factor</i>	> 0.6-0.7	The convergent validity test is a part of the measurement model evaluation.
<i>Average Variance Extracted</i>	> 0.5	
<i>Cross Loading</i>	> 0.7	
Akar Kuadrat AVE dan Korelasi antar Konstruk Laten	The square root of Average Variance Extracted (AVE) for each construct is greater than the correlation between constructs in the model.	The discriminant validity test is a part of the measurement model evaluation.

<i>R-Square</i>	Considering the given values of 0.75, 0.50, and 0.25 for AVE, it can be concluded that the model is strong (0.75), moderate (0.50), and weak (0.25) respectively. The higher the AVE value, the better the measurement model in capturing relevant constructs from the observed data.
Uji t	The value of 1.65 is significant at the 10% level, while the t-value of 2.58 is significant at the 1% level. Parameters are part of the structural model evaluation.

RESULTS AND DISCUSSION

The following table presents the data obtained and input into the Smart PLS 3.0 program:

Table 2. Research Data

Log Effectiveness of Foreign Debt		Sektor (%)			Economic Maturity (%)
Government	Private Sector	Primary Sector	Secindary Sector	Teritory Sector	
16.04	15.89	4.43	6.19	9.42	8.16
16.04	15.18	3.72	7.10	9.55	7.58
16.10	16.10	4.22	7.09	8.75	7.18
16.19	16.25	3.73	6.77	8.09	7.30
16.22	16.32	3.64	6.40	7.03	6.98
16.30	16.38	1.81	5.83	6.47	7.20
16.34	16.35	3.40	5.65	6.70	6.79
16.40	16.38	3.70	5.95	6.74	6.64

The model's accuracy is assessed followed the input and processing of the data using the software. The structural model (inner model) is evaluated after the measurement approach (outer model) has been assessed.

Both the convergent validity test and the discriminant validity test are two tests that are utilized in the evaluation of the measurement model. Each test has parameters with established requirements. Based on the Loading Factor and Average Variance Extracted (AVE) values, the convergent validity test is evaluated. The findings are displayed as follows:employed labor force size (Case, 2016).

Loading factor

Table 3. Loading Factor

Indikator	Loading Factor Variabel Laten	
	Sektor	Log Effectiveness of Foreign Debt
Government	-	0.987
Swasta	-	0.989

Primary Sector	0.797	-
Secondary Sector	0.865	-
Tertiary Sector	0.978	-

As it can be seen from the results, the nominal values for the administrator indicator are 0.987, private sector 0.989, primary sector 0.797, secondary sector 0.865, and tertiary sector 0.978. These results suggest that what has been achieved fit with the demands for a study that possesses both confirmatory and explanatory features. Based on Chin's explanation in Ghozali & Latan, (2015), the previous standards had been established.

Average Variance Extracted (AVE)

Construct Reliability and Validity menu item "AVE output" displays the output. In the following table, the values are shown:

Table 4. Average Variance Extracted

Konstruk	Average Variance Extracted
Pertumbuhan Ekonomi	0.867
Efektivitas Utang Luar Negeri	0.986

According to the information given, economic growth and the efficacy of foreign debt have AVE values of 0.867 and 0.986, respectively. These values satisfy the 0.5–0.6 cutoff set forth by Chin in (Ghozali & Latan, 2015). The assessment of the outer model utilizing the Convergent Validity test, with an emphasis on the Loading Factor and AVE evaluation, conforms with expert criteria. The discriminant validity test entails cross-loading and comparing the square root of AVE values with correlation values amongst latent constructs.

Cross Loading

The test results are displayed in the cross-loading column of the Discriminant Validity section. The paragraph that follows is an example of the test's output:

Table 5. Cross Loading

Indicator	Loading Factor Variabel Laten		
	Economic Maturity	Sector	Log Effectiveness of Foreign Debt
Government	-0.875	-0.894	0.985
Swasta	-0.889	-0.879	0.984
Primary Sector	0.395	0.796	-0.681
Secondary Sector	0.482	0.871	-0.782
Tertiary Sector	0.905	0.964	-0.984
Economic Maturity	1.000	0.746	-0.975

It is demonstrated that the cross-loading values for the primary, secondary, and tertiary sectors' indicators are, respectively, 0.796, 0.871, and 0.964. Indicators of the effectiveness of the public and private sectors' foreign debt are found to be 0.985 and 0.984, respectively. These evaluation results are determined to satisfy the predetermined standard, which is > 0.70. The square root of AVE and the correlation between latent factors are displayed in the differential validity Fornell-Lacker

Criterion selection output.

Table 6. Discriminant Validity Fornell-Lacker Criterium

Fornell Larcker	Economic Maturity	Sector	Log Effectiveness of Foreign Debt
Economic Maturity	1.000		
Sector	0.746	0.875	
Log Effectiveness of Foreign Debt	-0.892	-0.889	0.996

The square root of AVE for the economic sector construct is 0.875, which is higher than the connection between the economic growth construct and foreign debt effectiveness, which is only -0.889, according to the output that was supplied. Similar to the above, the connection between the economic growth construct and foreign debt effectiveness is only -0.889, whereas the square root of AVE for foreign debt effectiveness is 0.996, which is greater. The computed model's constructs all satisfy the requirements for discriminant validity, according to these findings.

The Evaluation of Structural Model

Analyzing the square root of the R-Square values, which demonstrate the structural model's capability for forecasting is the first step in the beginning of the assessment. T-tests are used in the evaluation process to check the proposed hypotheses.

Table 7. R Square

Matrix	R Square	R Square Adjusted
Economic Maturity	0.426	0.414
Sector	0.915	0.882

The output suggests that the model evaluating the impact of foreign debt effectiveness on economic growth yields an R-Square value of 0.426, or 42.6%. This value has been determined to be moderate. According to the interpretation, the variability in economic expansion construct may be responsible for 42.6% of the variation in the economic sector construct, with the remaining 57.4% being influenced by factors that weren't taken into account in this study.

The R-Square value for the model simulating the effectiveness of foreign debt on economic growth is 0.915, or 91.5%. This model qualifies as being exceptionally strong. According to the interpretation, the variation in the economic growth construct could account for 91.5% of the volatility.

Table 8. Uji t

Correlation	Original Sample (O)	Sample Mean (M)	Standar Deviation (STDEV)	T.Statistics (IO/STDEVI)	P Values
Foreign Debt Effectiveness based on Sectors → Economic Growth.	0.746	0.823	0.924	4.589	0.000
Efektivitas Utang Luar Negeri →	-0.889	-0.945	0.146	28.793	0.000

Pertumbuhan
Ekonomi

The observed results show a positive correlation between exogenous (external) and endogenous (internal) items. The t-statistic for each factor, which has been found to be > 1.96 , was made clear using the Bootstrapping technique. The t-value for the effect of foreign loan use on economic maturity was 28.793, whilst the t-value for assessing the impact of foreign debt utilization on economic growth was 4.589. Additionally, the coefficient of the indicator displaying the relationship between the sectors' foreign debt usage and economic maturity was 0.746, and the coefficient showing the relationship between the sectors' foreign debt use and economic maturity was -0.889.

The initial premise and Mankiw, (2011) that economic maturity is correlated with a country's economic sectors are reinforced by the substantial and beneficial association that was found between economic sectors and economic maturity. Continuous efforts are required for economic development, therefore raises the demand for personnel. Arsyad, (1999) highlights how science and technology breakthroughs and improvements, which have a substantial impact on all sectors, can be used to expedite national output.

In accordance with Boediono, (2016), there is a beneficial relationship between economic growth and multiple sectors of the economy over the long run. He argues that technology is crucial in accelerating the process of transformation of raw materials into consumer items and increasing production capacity above and beyond what can be accomplished for humans. In this situation, technology reduces the need for worker input, especially in the sense of quantity (Case, 2016).

The ultimate goal of economic sustainability is frequently confronted with obstacles because revenue is frequently lower than anticipated expenditures. External funding is sought for integrating production elements, therefore enhancing aggregate supply, in order to compensate for this budgetary shortage (Widodo, 2011). The test results, however, did not support the previously proposed hypothesis. The results of the study show that the effectiveness of foreign debt has a large and detrimental effect on economic growth. It also suggests that Solow's reasoning for income growth via capital allocation to raise aggregate supply in Jhingan, (2000) is invalid.

Over the long term, the success rate of foreign debt slows down development, thereby causing the economy to weaken (Murni, 2016). This is attributed to the financial strain caused by future obligations and interest payments. However, given that the foreign debt-to-GDP ratio is just 37%, one could argue that this ratio does not yet satisfy what the government wants for loans that could harm national income because it is considerably less than the 60% criterion.

The government recognizes in its statement, "FAQ Government Debt," issued by the Ministry of Finance of the Republic of Indonesia, that economic development through prohibitively costly social investments need time to produce the expected advantages based on the allotted timeframe. The statement (<https://www.kemenkeu.go.id/menjawabutang>) answers the query of why the results of productive spending have not yet been felt. According to Subandi et al., (2022) study, substantial investment that must be allocated yet are considered unacceptably minor are to blame for the stagnation of economic growth. According to the set completion timeframe, positive externalities can be acquired after the

actual implementation of public goods, as mentioned in Latif et al., (2023) research. The effectiveness of the government's foreign debt, in terms of projects, is stated as having been directed towards development activities and generally withdrawn in the form of goods, in accordance to the explanation given in the publication "Statistik Efektivitas Utang Luar Negeri Indonesia" by Bank Indonesia (Todaro & Smith, 2006). Based to the author, if loans are repaid with goods, the primary and secondary sectors' contribution to establishing economic sustainability will be weakened.

There are certainly a smaller number of individuals working in every sector of the economy therein that are connected to the provision of raw materials and the process of adding value to goods and services. In addition to poor management of the foreign debt effectiveness, other variables including limits on international trade contacts, political unrest, and terrorism also have an impact on the unfavorable connection that exists between the effectiveness of the foreign debt and economic growth (Sukirno, 2016). International trade is restricted as a result of countries' requirement to maintain their balance of payments in order to pay off foreign debt. Terrorism and political unrest are further contributing factors, and the adverse environment results in diminished interest from both domestic and foreign investors. In order to resolve these concerns and lower foreign borrowing, suitable interventions are needed (Suparmoko & Sofilda, 2000).

Foreign borrowing has a detrimental effect on economic growth because the extra external capital falls into a speculative channel and has little to do with raising production capacity. According to empirical findings, such borrowing has an encouraging impact on private sector investment. To make the deployment of external capital efficient in terms of time and use, negotiations are held to convert short-term debt into long-term debt. This efficiency is linked to the debt recompense date, ensuring that the borrowing is used for the original objectives intended rather than being used to pay off the debt and all associated obligations (principal and interest). The final item of recommendation is to cut lower on imports. According to Central Bank Indonesia, the use of government foreign debt for projects is focused on encouraging economic development and is typically withdrawn in the form of products. The creditor countries will profit from economic expansion as there is an increase in the supply of products and services since the demand for goods is being met by foreign sources. Reducing the efficacy of foreign debt through agricultural products is meant to suit domestic development prerequisites, strengthening national production aptitude.

CONCLUSIONS AND RECOMMENDATIONS

Budgetary measures with excessive deficits that fail to consider into consideration the state of the globe's economy now become a threat to oneself. Economists who are against the function of foreign debt effectiveness oppose it because it supports the advancement and growth of the economy of borrowing nations. Debt crises can take many different shapes. First, the creditor nation agrees to a delay in principal repayment as long as it continues to receive interest payments on the schedule that has been agreed upon. Second, the creditor completely delays the principal and interest payments. There are multiple additional kinds of debt crises besides these two, and creditors' reactions to these delays also vary. For example, in certain scenarios, creditors are willing to prolong the maturity period in exchange for higher rates of interest on the debt. In different situations, the interest rate is cut in an effort to lessen the country's debt burden.

Based on the research conclusion, it is conceivable to conclude that the

economic sector determines economic growth. Increasing the capacity for manufacturing through technology not only optimizes output but also declines worker input. On the other side, the effectiveness of foreign debt has a significant negative impact on economic growth. Economic development based on external capital requires time to finalized, and positive externalities can be went through when public goods are realized.

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