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# Public Debt Management and Its Impact on Economic Development: The Case of Vietnam

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## Abstract

Public investment is the process of investing capital in projects that serve national interests and thereby create a driving force for economic development in each country. Especially in developing countries, investment capital is limited, so improving the efficiency of public investment becomes a decisive factor for economic development and enhancing the country's status and ultimately making the country a should be rich. Vietnam has a low starting point, has gone through the doi moi process, and has gradually become a middle-income country, and public investment is attracting attention to improve the quality of the country's infrastructure. The objective of this study is to evaluate the factors affecting the effectiveness of public debt management in Vietnam, through a survey of 150 experts with knowledge of public investment and public debt management, using the results of the estimation through the Using SPSS software, the research results show that the monitoring system and human resource quality have an impact on the effectiveness of public debt management. The study could not, however, discover any proof of the influence of institutional quality, geographic location, or accountability on the effectiveness of public debt management. The research also addresses several policy recommendations for Vietnam that would help the country manage its public debt better in the future.

**Keywords:** Public Investment, Debt Management, Economic Development, Developing Country

**JEL Classification Code:** D22, D23, D26

## 1. Introduction

Economic development in each country is associated with an increase in per capita income, improving the quality of life of the people (Nguyen & Duong, 2021; Giannini & Oldani, 2022). To meet the development needs, governments of countries are constantly investing in infrastructure, creating connectivity in transport between regions throughout the country, reducing logistics costs, and ultimately reducing social costs, thereby improving the efficiency of enterprises and the economy as a whole, especially the pandemic since 2020 has negatively impacted economic growth, therefore, enhancing the economic development in the context of the pandemic is a necessary (Patma et al., 2020).

Public investment is the process by which the state or the private sector invests capital to carry out investment projects that have a spillover effect on the economy. Normally, public investment projects often have large investment capital and long investment time, the spillover effects of the public investment process also last, possibly up to hundreds of years. Therefore, effective public investment should be able to bring out the full benefits of the project in the economy and maintain economic growth in the long term.

After the war, Vietnam started as a closed economy, and that caused the economy to fall into crisis, the infrastructure was weak and the quality of life of the majority of the population was difficult (Nguyen, 2022; Nguyen & Do, 2020). It can be said that it was a period when Vietnam's economy had low productivity and low efficiency. Facing that context, Vietnam implemented economic and political reforms in 1986 and since then gradually integrated the country deeper into the global economy, maintaining high growth and attracting international capital flows. At the

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same time, the requirements of development also require Vietnam to constantly improve hard infrastructure and soft infrastructure to connect trade activities of the economy. According to the Government (2022), Vietnam's government debt decreased from 51.7% of GDP (in 2017) to 39.1% of GDP (in 2021), equivalent to nearly $144 billion. Government-guaranteed debt decreased from 9.1% of GDP (in 2017) to 3.8% of GDP (in 2021), which is a decrease of nearly 14 billion USD. Local government debt decreased from 1.1% of GDP (in 2017) to 0.6% (in 2021). The country's external debt decreased from 49% of GDP (in 2017) to 38.4% (in 2021). However, the requirement to improve the quality of investments becomes more urgent.

Previous studies have all suggested that effective investment makes the economy likely to have high growth, as Giannini and Oldani (2022) analyzed in the European Union (EU), and Ampofo et al. (2021) from 1991 to 2017 for 17 resource-rich countries. However, recent studies in Vietnam have not been interested and implemented by scholars. That is the reason for this study. Through the research, the research results are a clear demonstration of the factors affecting the effectiveness of public debt management in Vietnam and thereby suggest policy solutions for Vietnam in particular and other countries with favorable conditions. economic development similar to Vietnam in general. This has been suggested by the Government (2022) that comprehensively control risks and effectively public debt, ensure a safe and sustainable national finance, the increased application of modern debt management tools and is necessary to have a synchronous and unified debt portfolio risk management mechanism, step by step, and the application of good practices in public debt management according to international standards.

The study has 5 main parts. Part 1 is the selection of research problems. Section 2 discusses previous studies. Section 3 discusses data sources and research methods. Finally, sections 4 and 5 discuss the results and conclusions of the study.

## 2. Literature Review

Richard (2014) demonstrated unique approaches to accommodate accepted anomalies in monetary policy, a tenet that has traditionally been difficult to access. The author argues that unconventional approaches should also be considered in sovereign debt management, to contribute to the resolution of the euro area's sovereign debt crisis. First, the Troika crisis loan to sovereign borrowers in debt in the euro area is reviewed and compared with the IMF post-crisis standard loan. Differences and inadequacies are the unsustainable features of the eurozone approach, due to the omission of the demand stimulus components. To address this and other shortcomings, the features of an ideal alternative funding instrument are identified. It will solve the funding problems of the affected countries, help stabilize the banking system, but above all stimulate domestic demand and thus end the vicious downward spiral. It has been found that this financing approach can be implemented as part of the strengthening of public debt management by each country's debt management office.

Bouakez (2018) study optimal debt management in the face of shocks that can push the economy into a liquidity trap and call for increased public spending to mitigate recession. The authors' approach follows the literature on macroeconomic models of debt management, extending to the case of a lower bound of zero for binding short-term interest rates. The authors wanted to determine the conditions under which the removal of long-term government debt from the secondary market might be an optimal policy outcome. The authors further show that the optimal debt management strategy is to issue short-term debt if governments face a sizable exogenous increase in public spending and if their initial debt is not too large. In this case, the authors' results go against the norm of the debt management literature. Conversely, if the initial debt level is high, then issuing long-term government bonds is optimal. Finally, we see the role of a revision of the debt management strategy in the long time periods, whereby the government actively manages the maturity structure, in some cases removing long bonds from the market secondary school.

Ampofo et al. (2021) studied the long-run and causal relationship between total natural resource rents and economic development in a public debt function. The authors integrate trade openness, inflation, population growth, and unemployment rate in the model as additional regression functions. Empirical evidence is based on annual balance sheet data from 1991 to 2017 for 17 selected resource-rich countries. The econometric method with the Pooled Mean Group Autoregressive Distributed Lag (PMG-ARDL) is used as the best-fit estimation model to solve the econometric problems. vary, including heterogeneity among selected countries. The Johansen Fisher Panel cointegration test and the Kao test show cointegration among the variables. The PMG-ARDL results show a significant positive relationship between national resource income and public debt in the long run and a negative association in the short run. It is implied that excessive dependence on total natural resource rents will affect the public debt sustainability of the countries in the group if effective economic and fiscal management policies are ignored. The panel's Vector Error Correction Model - VECM results show a causal relationship between resource abundance and government debt. Finally, a two-way causal relationship was found to exist between natural resource rents and public debt accumulation. To avoid mounting debt, governments in resource-rich countries should engage in responsible debt, invest in areas that will

stimulate development, and implement anti-corruption policies to prevent corruption or revenue loss.

Fisera et al. (2021) studied the long-term effect of a devaluation of the local currency on external debt for a group of 41 emerging economies during the years 1999–2019 based on quarterly data. Using heterogeneous panel cointegration methods, the authors find that a depreciating local currency leads to an increase in the external debt-to-GDP ratio in the long run and, therefore, may reduce sustainability of foreign debt. This is especially true for larger amortizations, while smaller amortizations can even reduce the long-term external debt burden on more developed emerging economies. Poorer emerging economies face an increase in their external debt burdens after their local currencies depreciate. The authors also find that higher exchange rate volatility and the use of floating exchange rates contribute to a larger increase in external debt burden in the long run after currency depreciation. Furthermore, the authors find an asymmetric effect of exchange rate depreciation on external debt: greater central bank independence limits the effect of currency devaluation on debt. abroad, while higher financial development and illicit financial flows increase the impact of devaluation on external debt.

Giannini and Oldani (2022) analyzed the impact of structural asymmetries related to the use of interest rate swaps in the European Union (EU) on public debt sustainability. The fiscal consolidation needed to comply with European budget rules has added incentive for some countries to use debt-related instruments (i.e. debt financing). Indeed, between 2006–2020, 17 EU countries used interest rate swaps to protect their public debt. The results of the analysis of the dynamic panel data show that a 1% increase in the interest rate swap on debt, other things held constant, leads to an improvement in core surplus to GDP by 0.49, thus improving the sustainability of public debt. However, financial contracts involve additional risks that could ultimately affect public debt over the medium term, which are not currently assessed by the standard Debt Sustainability Analysis (DSA). The paper also discusses the main policy implications of using swaps. In the post-pandemic era, the political economy of debt relief needs to give due consideration to the financial risks associated with swaps.

Eğrican et al. (2022) indicated that although the impact of renewable energy consumption on human development has been investigated in previous studies, the results have been inconsistent. In addition, public debt can directly or indirectly affect human development and renewable energy consumption. However, studies examining the regulatory role of public debt in the relationship between renewable energy consumption and human development are still lacking. The authors' study seeks to fill this gap by examining whether public debt is a modifier of the relationship between renewable energy consumption and human development in BRICS countries during the 1990s–2016 or not. Using a set of methods that can help with cross-sectional dependencies, such as the Westerlund panel cointegration test, Driscoll-Kraay's robust standard error estimation, and Dumitrescu-Hurlin causality test, the experimental results indicate that human development is stimulated by the use of renewable energy. On the contrary, public debt is harmful to human development. Similarly, the interaction term between renewable energy use and public debt is confirmed to reduce human development. Furthermore, a two-way causal relationship exists between human development and renewable energy consumption. The authors' findings suggest that BRICS countries should encourage the use of renewable energy and control the public debt-to-GDP ratio at an appropriate level.

## 3. Data and Methodology

Research to collect secondary data are experts with knowledge of public debt and public debt management. We distributed ballots to about 164 people, they came from universities, experts, or experts related to public debt management or public investment in the State. After collecting data, the research will handle errors to eliminate inappropriate data. In the end, the study used 160 observations.

According to Hair et al. (2010), the sample size should be $n = 8m + 50$, where n is the minimum sample size, and m is the number of independent variables in the model, in this study, there are 5 independent variables, so the minimum sample size should be 90. In this study, the sample size selected in the analysis is 160, which is larger than the minimum sample size, that is, it satisfies the conditions in the analysis.

Through previous studies by Fisera et al. (2021) and some other authors, the study has adjusted the regression model accordingly and the proposed regression equation is as follows (Figure 1):

$$\begin{aligned} \text{PERFORMANCE} = {} & \beta_0 + \beta_1 \text{MONITOR} + \beta_2 \text{HC} \\ & + \beta_3 \text{IQ} + \beta_4 \text{GEO} \\ & + \beta_5 \text{AC} + \mu \end{aligned}$$

In which:

PERFORMANCE is the Outcome of public debt management

MONITOR is the monitoring system

IQ is the Institutional quality

GEO is the Geographical area

AC is the Accountability

And, HC is the human capital

In this study, SPSS25 software was used to evaluate the impact of the research problem. The study also performed the descriptive statistical analysis, correlation analysis, and especially the reliability analysis of the scale when

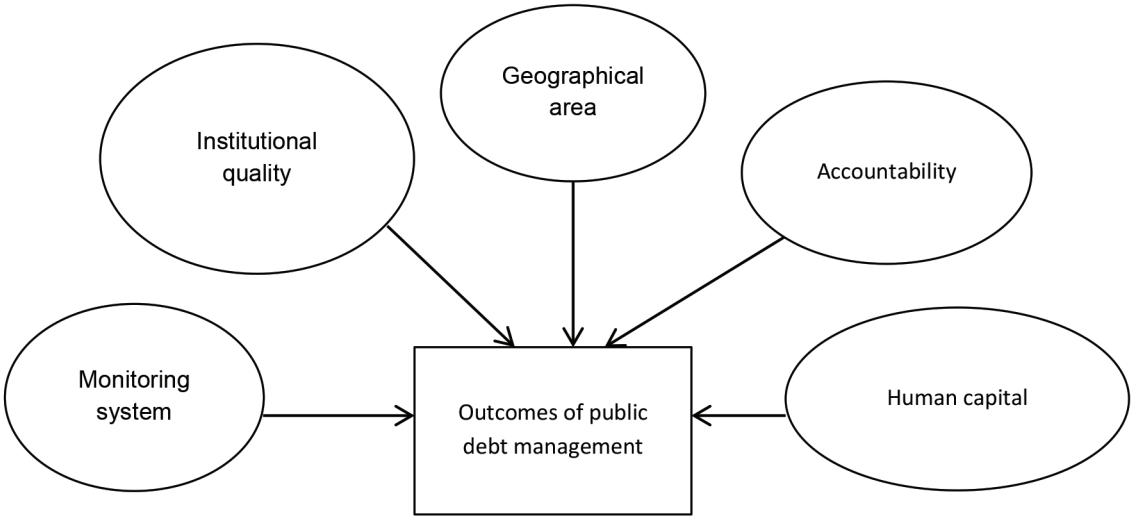


**Figure 1:** Variables Used in the Model

the variable correlation coefficient is greater than 0.3 and Cronbach's alpha coefficient is greater than 0.6. In this study, we also evaluate that the KMO must be greater than 0.5 to consider the appropriateness of factor analysis. The Bartlett test is used to evaluate the correlations of observed variables. When the Bartlett test gives a Sig value of less than 5%, it will confirm that the observed variables are correlated with each other in the factor. Through SPSS analysis, it is also confirmed that Eigenvalue is used to determine the number of factors in EFA analysis, only factors with an Eigenvalue value greater than 1 are kept in the analytical model. Furthermore, if the total variance explained is greater than 50%, it is confirmed that the EFA analysis is appropriate. In the EFA analysis, the factor loading coefficient must be greater than 0.3 to ensure that the variables are retained in the analysis and have good statistical significance, the factor loading coefficient reflects the correlation between the observed variable and the variable factor.

**Table 1:** Characteristics of the Survey

| **Own** | **Quantity** | **Ratio %** |
|---|---|---|
| University | 30 | 18.75% |
| Central government officers | 45 | 28.125% |
| Provincial officers | 56 | 35% |
| Others | 29 | 18.125% |
| **Total** | 160 | **100.00%** |
| **Age** | | |
| Under 30 years old | 42 | 26.25% |
| 31–40 years old | 40 | 25% |
| 41–50 years old | 40 | 25% |
| Others | 38 | 23.75% |
| **Total** | 160 | **100.00%** |

## 4. Results

### 4.1. Descriptive Statistics

The primary data collected from 160 respondents with its characteristics is presented in Table 1 below.

### 4.2. Reliability of Scale and Exploratory Factor Analysis

Reliability analysis is based on Cronbach's Alpha coefficient analysis and total variable correlation, with results as shown in Table 2 below:

Through reliability analysis, it can be seen that the factors selected in the regression model ensure reliability and are suitable conditions for performing EFA analysis, the results of EFA analysis are shown in the following Table 3:

Thus, through the results of the EFA analysis, the study has selected factors that ensure an impact or correlation, satisfying the next step of the analysis. Table 4 presents the analysis results of the dependent variable factor discovery analysis, the coefficient KMO = 0.787, and the total variance extracted 78.432% and greater than 50%, thereby confirming that the selection of the dependent variable is reasonable, and is an important condition for performing regression analysis.

**Table 2:** Reliability of Scale

| Variables | Number of Factors | Corrected Item-Total Correlation | Cronbach's Alpha If An Item Deleted |
|---|---|---|---|
| PERFORMANCE | 3 | 0.543 | 0.746 |
| MONITOR | 4 | 0.456 | 0.747 |
| IQ | 5 | 0.375 | 0.758 |
| GEO | 5 | 0.436 | 0.787 |
| AC | 4 | 0.496 | 0.813 |
| HC | 4 | 0.457 | 0.823 |

**Table 3:** Rotated Component Matrix

| Variables | Abbre. | Component | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| MONITOR | MONITOR 1 | 0.812 | | | | |
| | MONITOR 3 | 0.777 | | | | |
| | MONITOR 4 | 0.702 | | | | |
| | MONITOR 2 | 0.653 | | | | |
| IQ | IQ 1 | | 0.822 | | | |
| | IQ 2 | | 0.798 | | | |
| | IQ 4 | | 0.778 | | | |
| | IQ 5 | | 0.772 | | | |
| | IQ 3 | | 0.734 | | | |
| HC | HC 2 | | | 0.812 | | |
| | HC 3 | | | 0.789 | | |
| | HC 1 | | | 0.787 | | |
| | HC 4 | | | 0.724 | | |
| AC | AC 2 | | | | 0.800 | |
| | AC 4 | | | | 0.776 | |
| | AC 1 | | | | 0.756 | |
| | AC 3 | | | | 0.678 | |
| GEO | GEO 2 | | | | | 0.812 |
| | GEO 1 | | | | | 0.800 |
| | GEO 3 | | | | | 0.700 |
| | GEO 4 | | | | | 0.666 |
| | GEO 5 | | | | | |
| Rotation sums of squared loadings (total) | | 4.464 | 2.764 | 1.653 | 1.234 | 1.120 |
| Rotation sums of squared loadings (cumulative %) | | 26.123 | 44.445 | 46.775 | 58.216 | 69.763 |

**Table 4:** KMO and Bartlett's Test and Total Variance Explained of Dependent Variable

| | |
|---|---|
| Kaiser – Meyer – Olkin measure of sampling adequacy | 0.787 |
| Bartlett's Test for Sphericity | Approx Chi-Square = 134.678<br>Sig = 0.000 |
| Rotation sums of squared loadings (total) | 2.122 |
| Rotation sums of squared loadings (cumulative %) | 78.432 |

**Table 5:** Regression Results

| Variable | Unstandardized Coefficients | | Standardized Coefficients | *t* | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | | | | Tolerance | VIF |
| C | 2.121*** | 0.231 | | 2.112 | 0.000 | | |
| MONITOR | 0.200*** | 0.006 | 0.223 | 3.224 | 0.000 | 0.911 | 1.097 |
| IQ | 0.187 | 0.178 | 0.201 | 0.911 | 0.213 | 0.813 | 1.230 |
| GEO | 0.221 | 0.123 | 0.302 | –5.045 | 0.102 | 0.889 | 1.124 |
| AC | 0.221 | 0.142 | 0.245 | –4.499 | 0.321 | 0.745 | 1.342 |
| HC | 0.182*** | 0.023 | 0.214 | 1.797 | 0.000 | 0.768 | 1.302 |

### 4.3. Estimation Results

Through OLS regression analysis with all VIF values < 10, it shows that the regression model does not exist in multicollinearity. The results show that all independent variables have a positive impact on public debt management efficiency (*p*-values are all < 0.05 and corresponding beta coefficients (Table 5).

The results in Table 5 show that:

The supervision system in public debt management has a positive impact on the efficiency of public debt use. Indeed, public investment is often associated with projects with large capital value and requires a long investment period, so the effectiveness of public investment often takes many years to bring into full play. In the context of Vietnam when the legal system is not yet complete, it may be a condition that causes a loss in public investment. Therefore, the research shows that, when the monitoring system is more complete, it is possible to improve the quality of public investment projects, thereby serving the long-term economic development of the country.

The study also confirms the positive impact of human resource quality and public debt management efficiency. As previous studies have suggested that the quality of human resources is intellectual, physical, and healthy and is fostered through education, training, and health. When an economy is able to create a trained and healthy workforce, it means that the economy has high human capital and is able to meet the goals of economic development. As analyzed above, public investment projects often have large capital and long investment time, investment efficiency can last for hundreds of years, so public investment projects often have a degree of difficulty. If quality human resources can participate in the effective supervision and operation of public investment projects, it means that the effectiveness of the project is improved.

The study also found no evidence of the impact of institutional quality, geographical location, and accountability on the quality of public debt management.

## 5. Conclusion and Policy Implications

Public investment is the process of state investment in public projects to improve the hard infrastructure system for the economy and thereby meet the needs of economic development and improve people's living standards and evolution. To meet the quality of public investment projects, improving public debt management becomes urgent. Research and evaluate public debt management in Vietnam by collecting opinions of 160 experts, researchers, and activists related to public investment, and public debt, using the analysis method. Quantitative analysis through SPSS software, the research results confirm that the monitoring system and human resource quality have a positive impact on the efficiency of public debt management. However, the study also found no evidence of the impact of institutional quality, geographical location, and accountability on the quality of public debt management.

The study has several policy implications for Vietnam and a number of countries. Firstly, Vietnam continues to improve the legal system, especially the investment supervision and public investment management system, and public debt management to further improve the quality and efficiency of public debt management, thereby maintaining economic growth in the long run. Second, Vietnam continues to improve the quality of its training and health system, thereby improving the quality of human capital and contributing to the economy.

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