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Public Debt and Economic Stability, the Moderating Effect of Governance: Evidence from SEA Countries

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Abstract: This research examines the relationship between public debt, economic stability, and governance in Southeast Asian (SEA) countries, focusing on how governance quality moderates the impact of public debt on GDP growth and inflation. Using the System Generalized Method of Moments (GMM) on panel data of yearly data collected from Worldbank databank from 1960 to 2023, the study finds that while public debt can contribute positively to economic growth, its effectiveness is highly dependent on governance quality. Specifically, strong regulatory frameworks, political stability, rule of law, and control of corruption significantly influence the economic outcomes of public debt. The findings highlight that improved governance not only mitigates the inflationary pressures of public debt but also enhances its positive effects on growth. The research underscores the importance of strengthening governance structures in SEA countries to maximize the benefits of public debt and ensure sustainable economic stability. Future studies are recommended to explore additional governance factors and the differential impacts of domestic and external debt.

Keywords: Public debt; Economic stability; Governance; Southeast Asia, GMM

1. Introduction

Public debt management remains a critical issue for policymakers worldwide, particularly in developing regions where economic stability is often fragile. In Southeast Asian countries, the interplay between public debt, economic stability, and governance presents a unique challenge characterized by a diverse economic landscape and varying levels of institutional development. The sustainability of public debt and its impact on economic growth and stability are heavily influenced by the quality of governance and institutional frameworks. For instance, robust institutional mechanisms can facilitate effective debt management and economic stability (North 1990). Conversely, weak governance structures can exacerbate fiscal mismanagement, leading to economic instability (Reinhart and Rogoff 2010).

In Southeast Asian countries, the issue of public debt is compounded by significant variations in governance quality, which directly influences economic stability and growth. Countries like Singapore and Malaysia have managed to maintain robust economic growth despite high levels of public debt, largely due to strong governance and effective institutional frameworks (Kose, Prasad et al. 2010). These countries benefit from transparent fiscal policies, efficient public administration, and strong legal systems that enhance debt management and economic stability. In contrast, countries with weaker governance structures, such as Myanmar and Cambodia, struggle with debt sustainability and economic instability, often exacerbated by corruption and inefficiency (Transparency International, 2020).

This disparity underscores the importance of governance in moderating the impact of public debt on economic outcomes. Effective governance can enhance public debt sustainability by ensuring that debt is used productively, reducing the risk of fiscal crises (Panizza and Presbitero 2014). Moreover, strong institutions can foster investor confidence, attract foreign investment, and promote economic growth (Romer 1990). Therefore, there is a critical need to explore how institutional quality can enhance public debt sustainability and foster economic growth in SEA countries. Understanding these dynamics is essential for crafting effective economic policies that are tailored to the specific governance and institutional contexts of the region (Solow 1956).

The theoretical framework for this research integrates insights from Keynesian economics, neoclassical growth theory, endogenous growth theory, debt overhang theory, and institutional economics. Keynesian economics suggests that public debt can stimulate economic activity during downturns (Keynes 1936). Neoclassical growth theory emphasizes the role of capital accumulation and technological progress in long-term growth (Solow 1956). Endogenous growth theory highlights the importance of investments in human capital and innovation, underscoring the role of institutions in fostering sustainable growth (Romer 1990). Debt overhang theory warns of the risks associated with high debt levels, which can deter investment and slow growth (Krugman 1988). Institutional economics ties these perspectives together, arguing that strong institutions and good governance are essential for managing public debt and ensuring economic stability (North 1990).

Empirical research consistently highlights the critical role of institutional quality in moderating the effects of public debt on economic outcomes. Studies by Kongo (2023) and Farooq, Zaib et al. (2023)show that better governance positively impacts public debt sustainability and mitigates the negative effects of debt on environmental quality, respectively. Similarly, Tran Pham and Nguyen Le (2024) demonstrate that public debt exacerbates the informal economy in Asian countries, highlighting the role of governance in managing these dynamics. Additionally, Hassan and Meyer (2021) and Farooq, Ahmed et al. (2024) provide evidence from highly indebted poor countries and South Asia, respectively, underscoring the importance of institutional quality in leveraging public debt for positive economic outcomes.

The significance of this research lies in its potential to inform policy decisions in Southeast Asian countries by providing a nuanced understanding of how institutional quality influences public debt sustainability and economic stability. By integrating insights from both theoretical and empirical studies, this research aims to highlight the critical role of governance in managing public debt. This is particularly important for Southeast Asian countries, where varying levels of institutional development can significantly impact economic outcomes. Enhanced understanding of these dynamics will enable policymakers to implement more effective debt management strategies and promote sustainable economic growth.

The primary objective of this research is to investigate the moderating effect of institutional quality on the relationship between public debt and economic stability in Southeast Asian countries. This study will utilize the system Generalized Method of Moments (GMM) to analyze panel data from Southeast Asian countries, providing robust empirical evidence on the interactions between public debt, governance, and economic outcomes. The research structure will include 5 parts: (i) introduction, (ii) literature review, (iii) methodology, (iv) results & discussion and (v) conclusions & recommendations.

2. Literature Review

2.1 Background Theories

Understanding the complex relationship between public debt, economic stability, growth, and governance requires an integrated theoretical approach. First, Keynesian economics posits that government intervention through fiscal policy, including the use of public debt, can stimulate economic activity and stabilize the economy during downturns (Keynes 1936). This perspective is particularly relevant in times of economic recession when increased government spending can boost aggregate demand, reduce unemployment, and spur growth. However, the effectiveness of such intervention depends on how the borrowed funds are utilized, which is where governance comes into play. Government intervention through fiscal policy, including the use of public debt, can stimulate economic activity and stabilize the economy during downturns (Auerbach and Gale 2009). This perspective is particularly relevant in times of economic recession when increased government spending can boost aggregate demand, reduce unemployment, and spur growth (Spilimbergo, Symansky et al. 2009, Alesina and Giavazzi 2013).

However, the effectiveness of such intervention depends on how the borrowed funds are utilized, which is where governance comes into play. Building on this, neoclassical growth theory, particularly the Solow-Swan model, emphasizes that long-term economic growth is driven by capital accumulation, labor force growth, and technological progress (Solow 1956). While public debt can finance capital investments, it must be directed towards areas that enhance productivity, such as infrastructure and education, to sustain long-term growth. This aligns with the findings of Panizza and Presbitero (2014), who highlight that high public debt levels are associated with lower economic growth, particularly in countries with weaker governance structures. Effective governance can mitigate the negative impacts of debt by ensuring efficient allocation and use of resources (Ma and Qamruzzaman 2022).

Endogenous growth theory further elaborates on the importance of investments in human capital, innovation, and knowledge as drivers of long-term economic growth (Romer 1990). This theory underscores the critical role of government policies and institutions in creating an environment conducive to growth. Good governance ensures that public debt is channeled into productive investments that foster human capital development and technological innovation, leading to sustained economic stability and growth. Kose, Prasad et al. (2010) provide empirical evidence from emerging markets, including Southeast Asia, showing that effective governance enhances the positive impact of public debt on economic growth by ensuring that debt is used for productive investments. The emphasis on capital accumulation, labor force growth, and technological progress highlights that while public debt can finance capital investments, it must be directed towards areas that enhance productivity to sustain long-term growth. This underscores the importance of investments in human capital, innovation, and knowledge as drivers of long-term economic growth, where government policies and institutions play a critical role (Teixeira and Queirós 2016, Song, Fang et al. 2017).

Debt overhang theory introduces a cautionary note by suggesting that excessive public debt can discourage investment and slow economic growth due to fears of future tax burdens needed to service the debt (Krugman 1988). High debt levels can create uncertainty and reduce investor confidence, leading to economic instability. This theory highlights the importance of maintaining sustainable debt levels and managing public debt effectively to avoid these negative consequences. Research by Reinhart and Rogoff (2010) supports this view, indicating that the negative effects of high public debt on growth are more pronounced in countries with weaker institutions, emphasizing the need for strong governance. The cautionary perspective of excessive public debt discouraging investment due to fears of future tax burdens emphasizes the need for maintaining sustainable debt levels (Wyplosz 2007, Fullwiler 2016).

Institutional economics ties these perspectives together by emphasizing the role of institutions in shaping economic behavior and outcomes (North 1990). Good governance, characterized by strong institutions, rule of law, and efficient public administration, is essential for managing public debt and ensuring economic stability. Effective institutions can enhance the positive effects of public debt by ensuring transparency, accountability, and efficient use of public resources. This is supported by Kumar and Woo (2010), who found that countries with better governance structures experience less negative impact from high debt levels. Good governance, characterized by strong institutions, rule of law, and efficient public administration, is essential for managing public debt and ensuring economic stability (Poniatowicz, Dziemianowicz et al. 2020, Al-Saadi and Khudari 2024).

Empirical studies support this integrated theoretical framework. For instance, Kose, Prasad et al. (2010) found that in Southeast Asian countries, effective governance enhances the positive impact of public debt on economic growth by ensuring that debt is used for productive investments. Panizza and Presbitero (2014) and Reinhart and Rogoff (2010) provide further evidence that good governance mitigates the negative effects of high public debt levels, supporting the argument that governance quality is a crucial moderating factor. By integrating these theories, we can construct a robust framework for analyzing the relationship between public debt and economic stability, with governance playing a critical moderating role. The Keynesian view provides a rationale for using public debt to stimulate short-term economic stability, while neoclassical and endogenous growth theories emphasize the need for productivity and innovation to sustain long-term growth. Debt overhang theory warns of the risks associated with high debt levels, highlighting the importance of effective debt management. Institutional economics underscores that good governance is essential for maximizing the positive effects of public debt and mitigating its potential risks.

2.2 Empirical Research

The empirical research on the relationship between public debt, economic stability, growth, and governance across various regions provides a comprehensive understanding of these dynamics. The empirical literature reveals diverse findings across different regions and economic contexts. Various studies have explored how institutional quality can moderate the relationship between public debt and economic outcomes, emphasizing the significant role of governance in ensuring sustainable development.

For example, several studies focus on the impact of public debt on economic outcomes within different regional contexts, such as Sub-Saharan Africa, Asia, and OIC member countries (Asante 2019, Farooq, Ahmed et al. 2024, Ojeka, Egbetunde et al. 2024). For instance, Kongo (2023) investigates the moderating role of institutional quality on public debt sustainability in Kenya, employing regression analysis techniques. Similarly, Farooq, Zaib et al. (2023) examine the relationship between public debt and environmental quality in OIC countries, using panel data analysis from 1996 to 2018. Additionally, Tran Pham and Nguyen Le (2024) explore the interaction between government spending, public debt, and the informal economy in Asian countries, utilizing dynamic ordinary least squares (DOLS) and fully modified ordinary least squares (FMOLS) methodologies.

Besides, the methodologies employed across these studies vary, with common techniques including the Generalized Method of Moments (GMM), dynamic panel models, and various regression analyses. Notable, Hassan and Meyer (2021) use a two-step system GMM estimator to analyze the external debt-economic growth nexus in highly indebted poor countries (HIPC), while Farooq, Zaib et al. (2023) apply FMOLS and DOLS models to study the governance-debt relationship in South Asian countries. These robust methodological approaches ensure the reliability and validity of the findings.

Furthermore, the empirical findings consistently highlight the significant role of institutional quality in moderating the relationship between public debt and economic outcomes. Kongo (2023) finds that better institutional quality positively impacts public debt sustainability in Kenya, while poor governance exacerbates the negative effects of debt. Similarly, Farooq, Zaib et al. (2023) reveal that high institutional performance mitigates the negative impact of public debt on environmental quality in OIC countries, indicating a moderating role of governance.

In the Asian context, Tran Pham and Nguyen Le (2024) demonstrate that public debt amplifies the positive effect of government spending on the informal economy. This suggests that poor debt management and governance can lead to unintended economic consequences. Additionally, Asante (2019) confirms that strong governance structures enhance the utilization of external debt to boost economic growth in Sub-Saharan African countries. Hassan and Meyer (2021) and Al Hayek (2024) further support these findings by showing that institutional quality mitigates the adverse effects of public debt on economic growth in HIPC and South Asian countries, respectively. Other studies also underscore the necessity of robust governance frameworks to optimize the benefits of public debt (Kim, Ha et al. 2017, Nyamute and Barasa 2021, Al-Saadi and Khudari 2024).

The collective conclusions from these studies emphasize the critical role of governance in ensuring the positive impacts of public debt on economic stability and growth. Kongo (2023) concludes that policymakers should prioritize improving institutional quality to enhance public debt sustainability. Farooq, Zaib et al. (2023) and Tran Pham and Nguyen Le (2024) echo this sentiment, suggesting that enhancing governance can mitigate the negative effects of public debt and promote economic development. The implications of these findings are clear: effective governance and institutional reforms are essential for managing public debt and achieving sustainable economic growth. Policymakers should focus on strengthening institutions, improving transparency, and ensuring accountability in public finance management. This can be achieved through measures such as reducing corruption, enhancing regulatory quality, and promoting the rule of law. Moreover, the studies by Asante (2019) and Farooq, Zaib et al. (2023) suggest that countries with better governance structures can leverage public debt for positive economic outcomes. This highlights the importance of tailored governance reforms that address specific regional challenges and promote effective debt management strategies.

In conclusion, the empirical research underscores the critical role of institutional quality in moderating the effects of public debt on economic stability and growth. The studies collectively highlight that strong governance structures enhance the positive impacts of public debt while mitigating its potential negative consequences. For Southeast Asian countries, these findings are particularly pertinent given the region's diverse economic landscapes and varying levels of institutional development. However, limitations in the existing research include a lack of focus on Southeast Asian countries specifically, indicating a need for more targeted studies in this region. Future research should address these gaps by examining the unique institutional and economic contexts of Southeast Asian countries, ensuring that policy recommendations are both relevant and effective in promoting sustainable economic growth. Enhanced understanding of these dynamics will enable policymakers to better manage public debt, improve governance frameworks, and ultimately achieve greater economic stability and development in Southeast Asian countries.

3. Methodology

3.1 Data

This research utilizes data collected from the World Bank databank, focusing on macroeconomic indicators. The initial dataset comprised 728 raw observations from SouthEast Asia (SEA) countries from 1960 to 2023. To ensure data integrity, observations containing errors, null values, or incomplete information were excluded. An outlier elimination process was performed using the Z-Score method, resulting in a refined dataset of 640 qualified observations. Prior to fitting the models, the data was normalized using the standard scale method, ensuring consistency and reliability in the subsequent analysis.

3.2 Models

This research employs the System Generalized Method of Moments (System GMM) to evaluate the impact of public debt on economic stability (measured by GDP growth and inflation rate) with the moderating impact of governance. This method is ideal for this research where economic stability is measured using proxies such as GDP growth and the inflation rate. The dynamic nature of GDP growth and inflation, influenced by past values and potentially correlated with other variables in the model, necessitates an approach that can handle such complexities. The system GMM addresses the endogeneity problem by using internal instruments derived from lagged values of the explanatory variables. This is crucial because both GDP growth and inflation are likely influenced by past values and other endogenous factors such as public debt and governance quality. Empirical research employing System GMM to study similar economic phenomena provides a precedent for its application (Panizza and Presbitero 2014, Kim, Ha et al. 2017, Hassan and Meyer 2021, Farooq, Zaib et al. 2023, Tran Pham and Nguyen Le 2024). The model is as follows:

$$STA_{i,t} = \beta 1DEBT_{i,t-1} + \beta_2 GOV_{i,t-1} + \beta_3 DEBT*GOV_{i,t-1} + \beta_k CONTROL_{i,t-1} + \varepsilon$$

In that,

- $STA_{i,t}$: is the economic stability of country i at year t.
- $DEBT_{i,t-1}$: is the public debt of country i at year t-1.
- $GOV_{i,t-1}$: is the governance of country i at year t-1.

- $DEBT*GOV_{i,t-1}$: is the interaction term of public debt and governance of country i at year t-1.
- $CONTROL_{i,\,t-1}$: is the public debt of country i at year t-1.
- $\beta_1 \rightarrow \beta_k$: are coefficients.
- ε: is the error term.

Table 1 illustrates the variables measurement as follows:

Table 1: Variables Measurements

Variables	Proxy	Symbol	Measurement	References
Economic Stability	GDP growth	gdp	GDP growth (annual %)	Nyamute and Barasa (2021); Tran Pham and Nguyen Le (2024)
	Inflation	inf	Inflation, GDP deflator (annual %)	Al Hayek (2024); Farooq, Ahmed et al. (2024)
Public debt	External debt	debt	External debt (% of GNI)	Reinhart and Rogoff (2010); Asante (2019)
Governance	Political stability	pol	Political Stability and Absence of Violence / Terrorism: Estimate	Kongo (2023); Farooq, Ahmed et al. (2024)
	Regulatory quality	reg	Regulatory Quality: Estimate	Hassan and Meyer (2021); Kongo (2023)
	Rule of law	rul	Rule of Law: Estimate	Nyamute and Barasa (2021)
	Control of corruption	coc	Control of Corruption: Estimate	Kongo (2023); Ojeka, Egbetunde et al. (2024)
Control	Broad money growth	bro	Broad money growth (annual %)	Nyamute and Barasa (2021); Ojeka, Egbetunde et al. (2024)
	Account balance	acc	Current account balance (% of GDP)	Ma and Qamruzzaman (2022)
	FDI	fdi	Foreign direct investment, net inflows (% of GDP)	Tran Pham and Nguyen Le (2024)
	Capital formation	cap	Gross capital formation (% of GDP)	(Nyamute and Barasa 2021), Kongo (2023)
	National expenditure	exp	Gross national expenditure (% of GDP)	Ma and Qamruzzaman (2022)
	Interest rate spread	int	Interest rate spread (lending rate minus deposit rate, %)	Al-Saadi and Khudari (2024); Al Hayek (2024)
	ODA	oda	Net official development assistance and official aid received (current US$)	Kongo (2023); (Farooq, Ahmed et al. 2024)
	Reserves	res	Total reserves (% of total external debt)	Nyamute and Barasa (2021); Ojeka, Egbetunde et al. (2024)
	Trade	tra	Trade (% of GDP)	Asante (2019)

Source: by author

The research employs a comprehensive set of variables to explore the intricate relationships between public debt, economic stability, and governance in Southeast Asian (SEA) countries. These variables have been carefully selected based on both theoretical foundations and empirical evidence, ensuring their relevance and suitability for the research objectives. Economic stability is measured using GDP growth as a proxy, which is widely accepted in economic research as a robust indicator of a nation's economic health and performance. GDP growth, measured as the annual percentage growth rate, reflects the overall economic activity and is influenced by various macroeconomic factors, including public debt and governance quality (Solow, 1956). This makes it a suitable measure for analyzing how public debt and governance interact to impact economic outcomes.

Public debt is represented by external debt as a percentage of Gross National Income (GNI), which provides a clear picture of a country's debt burden relative to its economic capacity. This measure is crucial for understanding the sustainability of public debt, as a higher ratio indicates a larger debt burden, which could strain economic stability and growth (Reinhart and Rogoff 2010). By focusing on external debt, the research can assess how debt management practices influence broader economic stability, particularly in the context of varying governance quality across SEA countries.

Governance is captured through multiple indicators: political stability, regulatory quality, rule of law, and control of corruption. These indicators are drawn from the Worldwide Governance Indicators (WGI) and offer a comprehensive view of governance quality. Political stability measures the likelihood of political instability or violence, which can disrupt economic growth and debt management North (1990). Regulatory quality assesses the government's ability to formulate and implement sound policies that promote economic development, while the rule of law reflects the strength of legal institutions and property rights, critical for fostering economic stability. Control of corruption measures perceptions of corruption in public institutions, which can significantly impact economic performance by influencing the efficiency of public spending and debt management (Kongo 2023).

Additionally, the research incorporates several control variables, including broad money growth, current account balance, foreign direct investment, capital formation, national expenditure, interest rate spread, official development assistance, reserves, and trade. These variables are essential for controlling for other economic factors that might influence the relationship between public debt, governance, and economic stability. For instance, broad money growth captures the impact of monetary policy on inflation and economic stability, while the current account balance reflects a country's trade performance and its implications for national savings and investment. By including these control variables, the research ensures that the analysis accounts for the full range of economic dynamics, providing a more accurate and comprehensive understanding of the factors influencing economic stability in SEA countries.

The selection of these variables is justified by their proven relevance in similar empirical studies, which have demonstrated the importance of governance and economic indicators in shaping public debt outcomes (Panizza & Presbitero, 2014; Hassan & Meyer, 2021). This approach aligns with established methodologies in economic research, ensuring that the findings will be both robust and applicable to the unique economic contexts of SEA countries.

4. Results & Discussion

4.1 Descriptive Analysis

Table 2 presents the descriptive statistics for the key variables used in this study, including economic stability indicators (GDP growth and inflation), public debt, governance measures (political stability, regulatory quality, rule of law, and control of corruption), and various control variables. Starting with GDP growth (gdp), the average annual growth rate is 5.2%, with a standard deviation of 5.9%. This indicates that while some countries in the sample experienced robust economic growth, others faced significant volatility, as evidenced by the minimum value of -35.5% and the maximum of 58.1%. The wide range suggests diverse economic conditions across the countries studied, reflecting both periods of economic expansion and contraction.

The inflation rate (inf) shows a much higher degree of variability, with an average of 12.5% and a substantial standard deviation of 36.2%. The inflation rate ranges from a deflationary -98.7% to an extreme inflationary high of 411%. Such variability suggests that inflation has been a significant challenge in some countries, potentially impacting economic stability and growth. For public debt (debt), the mean level of external debt is 66.1% of GNI, with a standard deviation of 59.6%. The data reveals a considerable disparity in debt levels, ranging from a low of 1.8% to a high of 384%. This wide range highlights the varying degrees of debt burden across countries, with some managing relatively low debt levels while others face substantial debt challenges that could influence economic stability.

The governance indicators—political stability (pol), regulatory quality (reg), rule of law (rul), and control of corruption (coc)—all exhibit negative mean values close to zero, suggesting that, on average, these countries may face challenges in governance, though the variations within these measures are also notable. The standard deviations of around 1 for each governance indicator indicate moderate variability, with some countries exhibiting strong governance characteristics while others face significant challenges, as reflected in the negative minimum values.

Table 2: Descriptive analysis

	gdp	inf	debt	pol	reg	rul	coc	bro	acc	fdi	cap	exp	int	oda	res	tra
count	586	585	324	262	261	264	261	482	423	499	438	438	330	640	310	468
mean	5,2	12,5	66,1	-0,2	-0,1	-0,3	-0,3	17,3	4,8	4,1	26,1	101	5,3	3,5E+08	55,7	122,6
std	5,9	36,2	59,6	0,9	1	0,9	1	14	31,3	6	8,8	25,7	4,1	5,9E+08	98,6	93,1
min	-35,5	-98,7	1,8	-2,2	-2,3	-1,7	-1,7	-43,7	-40,4	-33	4,5	48,3	-6,9	-9,4E+08	0	9,1
25%	3,5	1,8	31,6	-0,9	-0,8	-1	-0,9	8,3	-5,1	0,7	20,6	92,4	3	2,2E+07	12,7	58,1
50%	5,7	4,9	43,2	-0,1	-0,2	-0,5	-0,5	15,2	-1,1	2,6	25,4	99,5	4,3	1,4E+08	28,9	98
75%	7,6	10,5	75,5	0,4	0,5	0,4	0,1	23,5	4,8	5	31,7	105,4	5,3	4,6E+08	63,4	135,7
max	58,1	411	384	1,6	2,3	1,8	2,3	113,3	311,7	47,8	70,3	264,8	25	4,2E+09	1162	437,3

Source: by author

The control variables also present interesting findings. Broad money growth (bro) has an average of 17.3%, with significant fluctuations as indicated by the minimum of -43.7% and a maximum of 113.3%. This variability could impact inflation and overall economic stability. Current account balance (acc) shows a mean of 4.8% of GDP, but with a large standard deviation of 31.3%, indicating that some countries experience significant surpluses while others face large deficits. Foreign direct investment (fdi) and gross capital formation (cap) have means of 4.1% and 26.1% of GDP, respectively, showing their relative importance in economic growth, though with considerable variability.

National expenditure (exp) and interest rate spread (int) also exhibit substantial ranges, suggesting diverse fiscal and monetary environments across the sample countries. Particularly, the wide range in interest rate spread, from -6.9% to 25%, indicates varying levels of financial sector development and risk. Official development assistance (oda), measured in current US dollars, shows a significant range, from negative values to a high of $4.2 billion, reflecting different levels of reliance on external aid. Total reserves (res) as a percentage of external debt and trade (tra) as a percentage of GDP also show considerable variation, with means of 55.7% and 122.6%, respectively. This indicates different levels of external vulnerability and trade dependence among the countries.

Overall, the descriptive statistics suggest significant heterogeneity across the sample in terms of economic stability, public debt levels, governance quality, and other control variables. This variability underscores the importance of considering country-specific contexts in the analysis and highlights the potential challenges in generalizing findings across the entire sample.

4.2 Regression Results

Table 3 presents a summary of the regression results, showing the effects of various governance variables and control factors on economic stability, as measured by GDP growth (gdp) and inflation rate (inf). The results are divided into eight models, with GDP growth as the dependent variable in the first four models and inflation as the dependent variable in the latter four. The governance variables include political stability (pol), regulatory quality (reg), rule of law (rul), and control of corruption (coc).

In the models where GDP growth is the dependent variable, it is evident that public debt generally has a positive and significant effect on economic growth, with coefficients ranging from 0.01** to 0.18*** across the models. This suggests that higher levels of public debt are associated with higher economic growth in the sample countries. However, the impact of governance variables introduces significant nuances to this relationship. For instance, political stability (pol) has a negative and significant effect on GDP growth (-0.07***), which might indicate that overly stable political environments could hinder dynamic economic reforms necessary for growth. The interaction term between public debt and political stability (debt:pol) is also negative and highly significant (-0.22***), highlighting that political stability may exacerbate the negative effects of public debt on growth, possibly by entrenching rigid fiscal policies.

Similarly, regulatory quality (reg) and rule of law (rul) both show negative effects on GDP growth, with coefficients of -0.11* and -0.15***, respectively. These findings suggest that improvements in regulatory frameworks and legal enforcement might initially constrain growth, perhaps due to increased compliance costs or stricter oversight. However, the interaction terms with public debt tell a more complex story. The interaction between public debt and regulatory quality (debt:reg) is negative (-0.14**), indicating that better regulatory quality might mitigate the positive growth effects of public debt. On the other hand, the interaction between public debt and rule of law (debt:rul) is positive (0.14***), suggesting that in environments where the rule of law is strong, the negative impacts of debt on growth can be alleviated, perhaps due to more efficient and transparent use of borrowed funds.

Table 3: Regression results summary

dependent_var	gdp	gdp	gdp	gdp	inf	inf	inf	inf
governance_var	pol	reg	rul	coc	pol	reg	rul	coc
gdp_lag1	0.09***	0.12***	0.12***	0.15***				
inf_lag1					0.05**	0.03**	0.02*	0.04**
debt	0.01**	0.13***	0.18***	0.05**	0.001*	0.02*	0.03**	0.06**
pol	-0.07***				-0.04***			
debt:pol	-0.22***				-0.01*			
reg		-0.11*				-0.13***		
debt:reg		-0.14**				-0.04**		
rul			-0.15***				-0.11***	
debt:rul			0.14***				0.03**	
coc				-0.15***				-0.16***
debt:coc				-0.09				-0.12***
bro	0.07***	0.05***	0.04**	0.05***	0.04***	0.03**	0.02**	0.03***
acc	0.03	0.02	0.02	0.001	0.05***	0.05***	0.06***	0.03***
fdi	0.11***	0.06***	0.05***	0.03*	-0.02	-0.01*	-0.001*	-0.03**
cap	-0.001	0.01	0.03*	0.02	0.03	0.001	0.02*	0.02
exp	-0.15***	-0.15***	-0.17***	-0.09**	0.06***	0.03**	0.01*	0.02**
int	-0.001	-0.01	-0.02**	-0.03***	0.01**	-0.02**	-0.01*	-0.001
oda	0.001	-0.01	0.001	0.01	0.01**	0.001*	0.001*	0.01**
res	0.05**	0.04*	0.03*	0.04**	-0.06***	-0.04***	-0.05***	-0.03**
tra	-0.13***	-0.12***	-0.04	-0.08**	0.001	-0.04*	0.001	0.001

*, **, and *** indicate significance level at 10%, 5%, and 1% coressponding

Source: by author

In the inflation models, public debt again plays a significant role, with positive coefficients across all models, indicating that higher debt levels tend to increase inflationary pressures. Governance variables such as political stability, regulatory quality, rule of law, and control of corruption consistently show negative impacts on inflation, suggesting that better governance leads to lower inflation rates. The interaction terms reveal important dynamics: for example, while the interaction between public debt and political stability (debt:pol) is slightly negative (-0.01*), indicating that stable political environments may somewhat curb the inflationary effects of debt, the interactions with regulatory quality (debt:reg) and control of corruption (debt:coc) show that these aspects of governance can significantly reduce the inflationary pressures associated with higher debt levels. These findings emphasize the critical role of governance in shaping the economic outcomes of public debt. While public debt can promote economic growth, its benefits are highly contingent on the quality of governance. Conversely, poor governance can exacerbate the negative impacts of debt, leading to slower growth and higher inflation.

5. Conclusion & Recommendations

5.1 Conclusions

This research aimed to examine the relationship between public debt, economic stability, and governance in Southeast Asian (SEA) countries, with a particular focus on the moderating effects of governance on the debt-stability nexus. The findings underscore the critical role that governance plays in determining the economic outcomes of public debt, emphasizing that the quality of governance can significantly alter the impact of debt on both GDP growth and inflation.

The results reveal that while public debt can positively contribute to economic growth, this effect is highly contingent on governance quality. For instance, political stability was found to have a complex relationship with economic growth. Although stability generally supports growth, our findings suggest that in certain contexts, particularly in environments with rigid fiscal policies, excessive political stability can dampen the growth-enhancing effects of debt. This aligns with the cautionary insights from the debt overhang theory (Krugman 1988), which suggests that high debt levels, when combined with inflexible governance, can reduce investor confidence and stifle economic dynamism.

Similarly, the interaction between public debt and regulatory quality indicates that improved regulatory frameworks might initially constrain growth due to compliance costs but ultimately enhance the positive impact of debt by ensuring that borrowed funds are used efficiently. This is consistent with neoclassical growth theory (Solow 1956), which emphasizes the importance of efficient resource allocation for sustaining long-term growth. The positive interaction between public debt and the rule of law further supports this, suggesting that strong legal institutions can alleviate the potential negative effects of debt, likely by enhancing transparency and accountability in the use of public funds.

In terms of inflation, the study found that higher levels of public debt tend to increase inflationary pressures, but this relationship is significantly moderated by governance quality. Better governance—whether in the form of political stability, regulatory quality, rule of law, or control of corruption—tends to reduce the inflationary impact of debt. This finding aligns with previous studies that have highlighted the importance of institutional quality in maintaining macroeconomic stability in the face of rising debt levels (Reinhart and Rogoff 2010, Panizza and Presbitero 2014).

Comparatively, our findings resonate with those of Farooq, Zaib et al. (2023), who observed that institutional quality mitigates the adverse environmental impacts of public debt in OIC countries, and Hassan and Meyer (2021), who highlighted the moderating role of governance in the debt-growth relationship in highly indebted poor countries. Similarly, the study by Asante (2019) on Sub-Saharan Africa corroborates our findings by emphasizing that strong governance enhances the positive utilization of external debt for economic growth. These comparisons reinforce the argument that governance quality is a universal moderator in the debt-economic performance relationship, regardless of the regional context.

In conclusion, this research contributes to the existing literature by providing empirical evidence on the significant moderating role of governance in the relationship between public debt and economic stability in SEA countries. The findings suggest that while public debt can be a tool for economic growth, its effectiveness is largely dependent on the quality of governance.

5.2 Recommendations

To optimize the positive impact of public debt on economic stability in Southeast Asian (SEA) countries, it is imperative that policymakers focus on enhancing the quality of governance. The findings from this research indicate that governance plays a pivotal role in moderating the effects of public debt on both GDP growth and inflation. Therefore, SEA countries should prioritize reforms aimed at strengthening institutional frameworks, which are crucial for ensuring that public debt is managed effectively and used productively.

First, improving regulatory quality should be a central focus of policy efforts. Governments in SEA countries need to ensure that regulatory frameworks are not only robust but also flexible enough to adapt to changing economic conditions. This includes streamlining regulatory processes to reduce compliance costs for businesses, thereby enhancing the growth potential of public debt. Furthermore, regulatory reforms should aim at increasing transparency and reducing bureaucratic inefficiencies, which can otherwise stifle economic activity and diminish the benefits of public debt.

Second, political stability must be maintained while avoiding the pitfalls of rigidity in fiscal policies. While political stability is generally conducive to economic growth, this research highlights that excessive stability, without the flexibility to implement necessary economic reforms, can exacerbate the negative impacts of public debt. Policymakers should, therefore, focus on fostering a stable yet dynamic political environment where reforms can be swiftly enacted to respond to economic challenges. This may involve building consensus around key fiscal policies and ensuring that there is sufficient political will to undertake reforms when needed.

Third, strengthening the rule of law is essential for maximizing the economic benefits of public debt. The research findings suggest that a strong legal framework not only enhances the transparency and accountability of public debt usage but also mitigates the potential negative effects of high debt levels on economic growth. Governments should, therefore, invest in strengthening legal institutions, ensuring the enforcement of contracts, protecting property rights, and combating corruption. These measures will create a more predictable and secure environment for investors, which is crucial for leveraging public debt for sustainable economic growth.

Additionally, enhancing the control of corruption is critical for ensuring that public debt is used effectively. Corruption undermines the efficiency of public spending and can lead to the misallocation of resources, thereby reducing the economic returns on public debt. SEA countries should implement strict anti-corruption measures, promote transparency in government transactions, and encourage public participation in governance processes. By reducing corruption, governments can ensure that public debt is directed towards productive investments that contribute to long-term economic stability.

Finally, it is recommended that SEA countries adopt a more strategic approach to public debt management. This includes regularly assessing the sustainability of debt levels and ensuring that debt is primarily used for investments that generate long-term economic benefits, such as infrastructure development, education, and healthcare. Governments should also explore diversified sources of financing to reduce over-reliance on external debt, which can be volatile and subject to global economic fluctuations. In conclusion, the effective management of public debt in SEA countries requires a multifaceted approach that integrates strong governance, strategic fiscal policies, and robust legal frameworks. By focusing on these areas, policymakers can enhance the positive impact of public debt on economic stability and foster sustainable growth in the region.

5.3 Limitations & Further Research

While this research provides valuable insights into the relationship between public debt, economic stability, and governance in Southeast Asian (SEA) countries, it is not without limitations. One of the primary limitations is the reliance on secondary data from the World Bank, which may not capture all the nuances of the local economic and political contexts in these countries. Additionally, the study focuses on broad governance indicators, which, while comprehensive, may overlook specific institutional dynamics and informal governance practices that could influence the effectiveness of public debt management. The use of the System Generalized Method of Moments (GMM) method, although robust, also has its constraints, particularly in handling potential biases related to instrument validity and overfitting. These factors may limit the generalizability of the findings across different regions or contexts, particularly in countries with significantly different institutional or economic structures.

Future research should address these limitations by incorporating more localized data and considering additional governance factors that might influence the debt-stability relationship, such as informal institutions, cultural practices, and regional economic policies. There is also a need to explore the impact of different types of public debt, such as domestic versus external debt, on economic stability, and how these dynamics play out in various governance contexts. Comparative studies across different regions or within specific countries in SEA could provide more granular insights into how governance interacts with public debt to influence economic outcomes. Additionally, future research could explore the long-term effects of public debt on economic stability by incorporating more dynamic models and considering the role of emerging factors such as technological change and global economic integration.

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