# GOVERNING PUBLIC DEBT SUSTAINABILITY IN SOUTH AND SOUTHEAST ASIA

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***ABSTRACT*:** *As public debt levels keep increasing and institutional capacities remain unequal, studying the linkages between governance and fiscal sustainability is becoming all the more relevant in South and Southeast Asia. The study examines the connections between corruption control, government effectiveness, public debt and fiscal adjustment. Annual data for 2002-24 were compiled from the IMF World Economic Outlook and the World Bank indicators on governance and development. Pooled mean group estimation, alternative lag specifications, subregional analysis and reduced cross-section augmented specifications are used to estimate panel autoregressive distributed lag models. Thirteen and seventeen economies are included in the principal and auxiliary primary-balance models, respectively. The common-sample estimates suggest that the better a country is at controlling corruption, the less debt it has, whereas the more effective its government is, the more debt a country has. The two governance relationships, however, are not statistically significant in the reduced cross-section augmented models. The specification for the primary balance indicates that the inherited-debt coefficient is positive (0.1037) and the adjustment coefficient is negative (−0.2286), which is an indicator of conditional fiscal responsiveness. Debt integration is not resolved, some specifications did not converge and residual-dependence testing is not complete, which limits definitive inference. The study suggests that there is no consistently robust governance–debt nexus and that governance–debt relationships are specification-dependent. Policy implications include ensuring more transparent reporting of debt, developing more sophisticated methods for assessing expenditure, more systematic tracking of the primary balance, and country-specific fiscal frameworks, as well as better econometric validation before debt targets are set and before causal effects of institutional changes are attributed across the two Asian subregions.*

**Keywords:** Public debt sustainability; Corruption control; Government effectiveness; Panel ARDL; Fiscal adjustment.

## INTRODUCTION

Public borrowing, while important for funding development, must be sustainable if governments are to be effective in translating financial resources into productive spending and bringing about credible fiscal adjustment. The findings in [1] pinpoint the negative connections between debt and growth across Asian economies, showing that debt levels alone are not an appropriate measure of borrowing sustainability. The findings in [2] demonstrate country-specific and debt distribution-specific effects of institutions on government debt. Given this evidence, it is tempting to look into the possibility of using measures of corruption control and government effectiveness to understand debt patterns in South and Southeast Asia in which different types of administrative capabilities and financing arrangements make uniform conclusions problematic for policymakers.

The regional comparison is substantively important because in the same region, similar development goals must be pursued while debt levels and governance vary significantly. According to the 2026 IMF data extracted, Maldives' 2024 gross government debt was 133.364 percent of GDP compared to Malaysia's 69.806 percent of GDP. These are figures for liabilities and not a statement of insolvency. The study in [3] shows that fiscal vulnerability is an interaction of debt and broader macroeconomic factors. The findings in [4] also show evidence of geographical heterogeneity and debt–growth feedback in the Asian economies, justifying the use of a comparative design as opposed to a one-size-fits-all approach for each subregion.

This variation may be explained by two factors: corruption control and government effectiveness. Corruption control could result in lower leakage in expenditures, and good administration could lead to better execution of the policies and collection of revenues. According to [5], the relationship between corruption and debt accumulation can be mitigated by improving institutional quality in developing economies. The findings in [6] demonstrate that the implications of borrowing for growth are dependent on good governance conditions. However, the borrowing potential can grow larger, in the first instance, when capable governments engage in valuable investment, and, therefore, an automatically negative governance coefficient is a proposition, not a theoretical given. Therefore, the separation of institutional dimensions provides more actionable evidence than relying on composite governance indices.

This paper allows for a discussion of the short-run and long-run relationships between governance and public debt in nineteen economies in 2002-2024, provided data are available for this period. The study in [7] confirms that the panel ARDL can be used to examine long-lasting corruption-debt dynamics. The study in [8] shows that it is crucial to account for common shocks in estimating long-run panel effects. The debt burden equation is then paired with an auxiliary fiscal reaction equation, subregional coefficients are compared and sensitivity to the heterogeneous reactions is tested. Its contribution consists of a comparative framework of governance, adjustment dynamics and fiscal behaviour, without mechanically identifying lower debt with sustainability, and without making causal identification claims.

## LITERATURE REVIEW

Institutional theories of public debt focus on incentives, capacities and the use of borrowed resources. Corruption may lead to diversion of procurement funds and undermine expenditure control, while good public administration can facilitate expenditure control and ensure consistent implementation of policies. Evidence from [5] provides a link between corruption and debt accumulation with institutional quality moderating the link between them. However, the findings in [2] demonstrate that the impact of governance also differs depending on the distribution of the debt and the institutional context. These studies, when taken together, can be

used to consider governance dimensions and challenge the notion of universal coefficients. The current study thus considers corruption control and government effectiveness as related but different traits with debt relations that need to be empirically analyzed individually.

In general, there is a direct link between corruption and debt, and the measurement and identification of this link are still an issue of contention. The study in [7] shows that the effects of corruption on debt show an increase in the debt ratio in the panel of developing countries and that over time, the interactions between corruption, revenues and expenditures have a significant effect. In the Chinese context, the findings in [9] link higher debt sustainability of local governments to more stringent anticorruption policies, especially when these policies are supported by greater fiscal transparency. They do not measure identical processes and comparability is limited due to their different institutional levels, that is, national perception indices and anticorruption interventions in provinces. The present study thus treats WGI corruption control as one of the conditions of good governance rather than a measure of the level of enforcement.

Government effectiveness reflects the quality of public goods and services, capacity of public institutions, and the credibility of public policies, affecting borrowing costs and public investment productivity. The findings in [6] indicate that enhancing the institutional quality can mitigate adverse debt–growth linkages in African economies. The findings in [10] show that the debt and growth relationship is favorable when institutions are good, in a global panel. The results suggest a reasonable administrative pathway but not an impact on debt sustainability. Growth is an intermediate outcome and institutions can react to economic performance. The current debt equation thus looks at conditional associations while acknowledging the possibility of reciprocal adjustment.

It also questions the validity of universal debt thresholds as policy rules as suggested in the literature. The findings in [11] identify debt and deficit thresholds that are dependent on the institutional indicators and development groups. The findings in [12] also show that this nexus of sovereign debt and macroeconomic stability depends on institutional quality. These estimates are contingent on the composition of the sample, outcome construction and the handling of nonlinearities, and therefore the actual numerical cutoffs cannot be easily transferred to South and Southeast Asia. In this paper, we therefore do not impose an external debt ceiling, but estimate the institutional associations in a transparent dynamic specification and leave nonlinear extensions until we have sufficiently informative samples.

Incorporating regional heterogeneity is increasingly supported by Asian evidence. The findings in [1] report on the negative link between debt and growth and on the common factors and asymmetric responses. Nonlinearities and geographically differentiated feedback can be detected in the Asian developing economies as indicated in [4]. However, these studies largely explain growth but not the governance determinants of debt accumulation. The conclusions reached by them cannot prove anything related to debt reduction or fiscal sustainability following a specific governance change. The present comparison focuses on that distinction in the form of a debt outcome, institutional indicators (considered separately) and subregional estimates, but keeps growth as a control for denominator effects and more general macroeconomic conditions.

These studies further warn against the assumption that all the debt growth that has been noted is a sign of institutional decline. The findings in [13] show that there are complicated relationships between corruption, borrowing and growth, including periods of output growth under specific institutional settings. However, the findings in [3] demonstrate that, in combination with other vulnerabilities, debt is also informative of fiscal crises. These outcomes suggest that sustainability cannot be determined solely by considering a combination of favourable short-term growth and a declining debt ratio. The fiscal reaction assessment is thus introduced in the present framework, examining whether a rise in inherited debt leads to stronger primary balances, while recognizing that this response is only one dimension of an overall solvency assessment.

## METHODOLOGY

Panel data for eight South Asian and eleven Southeast Asian economies (2002-2024) are used for the study. IMF WEO provides gross debt ratios, primary balance and overall balance ratios to GDP; current estimates provided by WGI include corruption control and government effectiveness, and WDI provides estimates of growth, inflation and trade openness. A panel ARDL application is provided in [7] for an association between corruption and debt. The findings in [1] provide a motivation for heterogeneous Asian panel analysis. The extraction retains missing cells and carries metadata from the sources; sample histories used for the estimation are contiguous histories. But as for Singapore, sizeable assets mean that one has to be careful in interpreting gross liabilities and the primary balance is still unfilled.

The base models provide a relationship between debt and corruption control, government effectiveness, real GDP growth, consumer price inflation and trade openness. Pooled mean group estimation allows for country-specific intercepts, adjustment speeds, short-run coefficients and variances, and restricts the long-run slopes. The findings in [14] provide an account of the mapping of the ARDL representation to parameters of the equilibrium correction. A common-factor framework for robustness is provided in [8]. Before estimating the model together, separate governance specifications were used to assess collinearity. The starting specification was a single annual lag, with alternatives being chosen based on information criteria and residual diagnostics subject to a maximum of twenty-three observations per country and lag losses.

Initial testing was done for cross-sectional dependence and slope heterogeneity. The order of integration was tested using CIPS tests, whereas cointegration testing using bootstrap Westerlund tests was conditional on suitable I(1) evidence. The study in [8] argues that shared factors can also be important and that, in such cases, cross-section augmentation would be desirable. Common influences are important in Asian debt panels as shown in [1]. Pooled mean group estimates were compared with dynamic fixed effects, with Hausman evidence unavailable because the mean group fit failed. Pooled panel statistics were not subject to country time-series bounds critical values, and persistent residual dependence would favor cross-section augmented alternatives subject to estimable degrees of freedom.

Equation 1 provides the accounting motivation rather than an estimated regression.

$$\Delta d_{it} = \frac{r_{it} - n_{it}}{1 + n_{it}} d_{i,t-1} - pb_{it} + sfa_{it}. \qquad (1)$$

Here, d is gross debt/GDP, pb is the primary surplus/GDP, and sfa denotes stock-flow adjustments, all in percentage points of GDP.

$$x_{it} = (CC_{it}, GE_{it}, GROWTH_{it}, INF_{it}, TRADE_{it})'. \qquad (2)$$

$$d_{it} = a_i + \theta' x_{it} + u_{it}. \qquad (3)$$

CC is corruption control and GE is government effectiveness; larger scores indicate stronger governance. GROWTH and INF are annual percentages and TRADE is exports plus imports/GDP in percent.

General panel ARDL representation

$$d_{it} = \alpha_i + \sum_{j=1}^{p} \lambda_{ij} d_{i,t-j} + \sum_{j=0}^{q} \beta_{ij}' x_{i,t-j} + \delta_i' D_t + \varepsilon_{it}. \qquad (4)$$

The vector D contains prespecified deterministic controls, initially indicators for 2020 and 2021; alternatives are tested only where estimable. Begin with p = q = 1, meaning one lag of debt and current plus one lag of each regressor.

Error correction representation

$$\Delta d_{it} = \phi_i (d_{i,t-1} - a_i - \theta' x_{i,t-1}) + \sum_{j=1}^{p-1} \psi_{ij} \Delta d_{i,t-j} + \sum_{j=0}^{q-1} \gamma_{ij}' \Delta x_{i,t-j} + \delta_i' D_t + \varepsilon_{it}. \qquad (5)$$

$$\phi_i = \sum_{j=1}^{p} \lambda_{ij} - 1, \qquad \theta_i = \frac{\sum_{j=0}^{q} \beta_{ij}}{1 - \sum_{j=1}^{p} \lambda_{ij}}, \qquad a_i = -\frac{\alpha_i}{\phi_i}. \qquad (6)$$

Under PMG, $\theta_i = \theta$ for included economies, while $a_i$ and $\phi_i$ vary. The sums with no terms equal zero, as for the lagged difference of debt when p = 1. And below equation highlights Auxiliary fiscal reaction relationship of this research:

$$pb_{it} = b_i + \rho d_{i,t-1} + \eta_1 CC_{it} + \eta_2 GE_{it} + \eta_3 GROWTH_{it} + v_{it}. \qquad (7)$$

**Table 1 Descriptive Statistics for the Eligible Country Sample**

| Variable | *n* | *M* | *SD* | Minimum | Maximum |
|---|---|---|---|---|---|
| Gross government debt (% GDP) | 294 | 51.466 | 29.654 | 0.594 | 170.410 |
| Corruption control | 294 | −0.190 | 0.962 | −1.518 | 2.172 |
| Government effectiveness | 294 | 0.114 | 0.801 | −1.305 | 2.210 |
| Real GDP growth (%) | 294 | 4.895 | 3.316 | −10.218 | 16.105 |
| CPI inflation (%) | 294 | 4.824 | 4.117 | −1.242 | 30.768 |
| Trade openness (% GDP) | 294 | 106.048 | 86.561 | 23.129 | 437.327 |

The ratio of debt to GDP is on average 51.466 percent of GDP, but the standard deviation is 29.654 and the range is 0.594 to 170.410, which shows that there is a degree of heterogeneity. Debt should not be assessed against an absolute threshold, but against a wider set of vulnerabilities, which the findings in [3] explain. There is also a wide range in trade openness and the governance scores cover opposing institutional settings. The findings in [2] report on the different institutional connections of public debt, arguing for the need for caution when relying on pooled averages. While these descriptive patterns give reason to consider country sensitivity checks, they do not make the claim that better governance lessens the need for borrowing, or that the sustainability of individual economies is identified.

**Table 2 CIPS Unit Root Tests and Provisional Integration Assessment**

| Variable | Level $\bar{t}$ | *p* | $\Delta\ \bar{t}$ | *p* | Assessment |
|---|---|---|---|---|---|
| Gross government debt | −1.852 | .359 | −2.140 | .084 | Unresolved |
| Corruption control | −2.675 | < .001 | −3.165 | < .001 | Level-stationary evidence |
| Government effectiveness | −2.921 | < .001 | −3.061 | < .001 | Level-stationary evidence |
| GDP growth | −2.603 | .001 | −3.699 | < .001 | Level-stationary evidence |
| Inflation | −2.566 | .002 | −3.385 | < .001 | Level-stationary evidence |
| Trade openness | −1.654 | .633 | −2.526 | .003 | Provisional I(1) |

Table 2 uses the reported five percent (CIPS) critical value to identify level stationarity for corruption control, government effectiveness, growth and inflation. After differencing, this indicates that trade has become stationary. The first-difference statistic for debt does not cross −2.260, leaving its integration order unresolved. Before interpreting equilibrium relationships, the findings in [14] emphasize the need for valid integration assumptions. This nonrejection is not evidence of debt integrated of order two, especially in brief histories. The study in [8] presents some of the common influences which make panel inference difficult. Thus, the skipped cointegration tests do not offer positive evidence of cointegration, but further long-run estimates are subject to reservations pending completion of rigorous debt stationarity tests.

**Table 3 PMG Estimates and Lag Comparison on the Same Estimation Sample**

| Parameter | ARDL(1,1,1,1,1,1) | ARDL(2,1,1,1,1,1) |
|---|---|---|
| Long run: Corruption control | −95.7479*** (27.3179) | −53.9368*** (15.8645) |
| Long run: Government effectiveness | 66.9993*** (17.5897) | 107.4940*** (28.2664) |
| Long run: GDP growth | −13.0444*** (3.0255) | −3.1323** (1.4595) |
| Long run: Inflation | −3.1147*** (0.9159) | −2.1282** (1.0719) |
| Long run: Trade openness | −1.5540*** (0.3958) | −0.2822* (0.1662) |
| Adjustment coefficient | −0.0484*** (0.0145) | −0.0646*** (0.0158) |
| Lagged debt change | — | 0.3615*** (0.0921) |
| Short run: Corruption control | −6.7802* (4.1080) | −6.2845 (4.5428) |
| Short run: Government effectiveness | 5.0590** (2.1938) | 8.3391** (3.3860) |
| Short run: GDP growth | −0.5943*** (0.1586) | −0.4270*** (0.1138) |
| Short run: Inflation | −0.1039 (0.1591) | −0.1516 (0.2020) |
| Short run: Trade openness | −0.0336 (0.0422) | −0.0008 (0.0611) |
| COVID 2020 indicator | 2.4883 (1.9113) | 3.7101** (1.5141) |
| COVID 2021 indicator | −0.5828 (1.2011) | −0.3898 (1.0686) |
| Constant | 14.0249*** (5.3541) | 5.6858*** (1.7804) |
| Observations | 268 | 268 |
| Countries | 13 | 13 |
| Log likelihood | −484.6550 | −442.8766 |
| Free parameters | 135 | 148 |
| AIC | 1,239.310 | 1,181.753 |
| BIC | 1,724.093 | 1,713.219 |

Two PMG specifications with the same sample of observations (268) are compared in Table 3. The additional debt lag lowers AIC from 1239.310 to 1181.753 and BIC from 1724.093 to 1713.219. The findings in [14] advocate examination of lag structures using information criteria, in addition to specification checks. But these conditional coefficients are not evidence of causality: corruption control continues to be negatively associated, whereas government effectiveness continues to be positively associated with debt. The findings in [1] provide a picture of the heterogeneous debt dynamics of Asian economies. Beyond the improved numerical fit, unresolved integration, common shocks, and the failure of the original PMG model make the interpretation of the negative adjustment coefficients as "evidence of conditional correction" tenuous.

**Table 4 Governance Estimates Across Subregional and Common Factor Specifications**

| Parameter | Southeast Asia PMG | CSARDL CC | CSARDL GE |
|---|---|---|---|
| LR corruption control | −34.7212*** (11.2322) | 109.4674 (154.0581) | — |
| LR government effectiveness | 42.9967*** (8.4272) | — | 94.3513 (69.5831) |
| LR GDP growth | −10.0337*** (2.2871) | −6.8080* (4.0220) | −1.0774 (2.0998) |
| LR inflation | −0.3725 (0.3120) | — | — |
| LR trade openness | −0.3497*** (0.0943) | — | — |
| Adjustment coefficient | −0.0863*** (0.0275) | −0.2885*** (0.0942) | −0.3485*** (0.0643) |
| Observations | 172 | 268 | 268 |
| Countries | 8 | 13 | 13 |
| Regressor scope | Five predictors | CC and growth | GE and growth |
| Cross-sectional average lags | Not included | 1 | 1 |

The robustness of the results to alternative governance specifications is weak as shown in Table 4. Estimates from Southeast Asian PMG suggest a negative association between corruption control and debt, while a positive association is observed between government effectiveness and debt; however, reduced CSARDL estimates fail to find either of the governance coefficients statistically significant. As demonstrated in [2], effects of institutions are context-dependent, and universal interpretations cannot be made. Common factors in dynamic panels are discussed in [8]. The specifications in this case, however, also affect regressors and the makeup of the sample, meaning that the differences are not completely due to cross-sectional augmentation. In South Asia, the failure to converge means that no reliable regional comparison can be made and there is no way to validate the common factor adjustments as the necessary tests were not completed.

**Table 5 Auxiliary PMG Fiscal Reaction Model for the Primary Balance**

| Parameter | *b* | *SE* | *p* |
|---|---|---|---|
| Long run: Inherited debt | 0.1037 | 0.0140 | < .001 |
| Long run: Corruption control | −0.0474 | 0.7146 | .947 |
| Long run: Government effectiveness | −0.0384 | 0.6118 | .950 |
| Long run: GDP growth | 1.3045 | 0.1839 | < .001 |
| Adjustment coefficient | −0.2286 | 0.0677 | .001 |
| Short run: Inherited debt | −0.0396 | 0.1770 | .823 |
| Short run: Corruption control | −3.2239 | 1.9770 | .103 |
| Short run: Government effectiveness | −0.1790 | 1.5503 | .908 |
| Short run: GDP growth | 0.2061 | 0.0734 | .005 |
| COVID 2020 indicator | −2.0363 | 1.1817 | .085 |
| COVID 2021 indicator | −0.7597 | 1.4326 | .596 |
| Constant | −2.6764 | 0.9801 | .006 |
| Observations | 351 | — | — |
| Countries | 17 | — | — |

Table 5 offers conditional evidence on fiscal adjustment: inherited debt has a positive long-run coefficient equal to 0.1037 while the adjustment coefficient equals −0.2286. Conditional on the estimated model, a 1 percentage point debt increase is thus accompanied by an increase in the primary balance of 0.104 percentage points. The findings in [3] indicate that fiscal vulnerability is a combination of several interacting conditions. Governance coefficients are not significant and the seventeen-economy sample is different from the debt models. The findings in [14] call for validation of the equilibrium relationships before interpretation. Therefore, this specification offers opportunities for further investigation of fiscal responsiveness without establishing solvency or causal governance effects.

## CONCLUSION AND POLICY IMPLICATIONS

Results provide conditional support for the debt sensitivity of fiscal balances, in the absence of a stable governance arrangement that guarantees debt sustainability. While common-sample PMG estimates find a negative correlation between corruption control and debt, reduced common-factor specifications do not reveal any significant governance correlation. The study in [8] shows the relevance of shared influences for such comparisons. Debt integration is not settled, original PMG estimates do not converge and MG failure prevents a Hausman comparison. The findings in [14] emphasize the need for validity checks of equilibrium specifications before long-run interpretation. Thus, it is provisional fiscal responsiveness with econometric uncertainty, not confirmed governance-driven sustainability, that is the defensible conclusion.

Policy should focus on increasing transparency in borrowing, credible expenditure appraisal, and robust management of primary balances, taking into consideration national financing arrangements. Being attuned to institutional differences when developing fiscal policies is supported in [2]. Positive effectiveness coefficients should not motivate weaker administration, as they could reflect productive borrowing, omitted influences or correlated governance measures. Monitoring debt together with macroeconomic vulnerabilities is justified in [3]. Thus, authorities are advised to include liability disclosure, asset information and stress testing to complement the imposition of fiscal rules. Before establishing numerical targets, it is recommended that researchers resolve integration, correct failed estimations and evaluate residual dependence while using consistent samples and specifications.

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