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Original Research Article

Study on Sovereign Default and Tax Smoothing in the Shadow of Corruption and Institutional Weakness

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Abstract: ***Background:*** Sovereign defaults and fluctuating tax policies still haunt many emerging and low-income states, largely because of governance inadequacy. Although tax-smoothing rationale suggests governments would borrow in recessions and repay in expansions to avoid fluctuating tax rates, weak institutions and corruption often undermine this mechanism, resulting in higher default and sudden fiscal adjustments. ***Objectives**:* The main goal of this study is to: (a) evaluate the quantitative effects of perceived corruption and institutional quality on sovereign default probabilities, (b) examine both these governance measures on the volatility of tax to GDP ratio, and (c) consider the ability of strong institutions to offset the negative fiscal implications arising from high debt straps. ***Method**:* We augment a standard sovereign-debt model by introducing a "governance penalty" variable that increases the cost of borrowing when corruption is high. Empirically, we test using panel data of 75 emerging and low-income countries from 1995 and 2020. We estimate default risk with panel logistic regressions with fixed effects and tax volatility with fixed effects regressions on the standard deviation of the difference of tax-to-GDP ratios. Interaction terms examine if institutional quality moderates the destabilizing consequences. ***Results**:* Our empirical results indicate that a one-point deterioration of the Corruption Perceptions Index leads to a 7–8% increase in the likelihood of a sovereign default. Greater institutional quality reduces default risk by about 5 % per unit enhancement. Weak governance is also associated with significantly higher tax volatility, after controlling for the level of the debt and macroeconomic factors. Interaction effects reveal that better institutional quality softens the public debt budget impact, stabilizes the tax paths, and reduces the likelihood of default. ***Conclusion**:* Our findings emphasize governance as a core principle of debt sustainability and fiscal stability. Anti-corruption reforms (including, eg, electronic procurement systems, open budgeting, and increased judicial independence) reduce the risk premium, stabilise revenue, and enhance the country's resistance to shocks. In our lending and rating frameworks, the governance benchmarks must be embedded into this to convert such episodic crises into opportunities for sustainable, broad-based growth.

Keywords: Sovereign default, tax smoothing, corruption, institutional quality, fiscal stability, debt sustainability, governance.

1. INTRODUCTION

1.1 Background of the Study

Sovereign default -- the occurrence of a government ceasing to meet its external debt obligations -- has quite ruthlessly come back to the fore in no less than four times over the past 20 years, ranging from Argentina's 2001 debacle to the 2015 Greek confrontation (Tomz & Wright, 2013). These crises impose enormous output losses, destabilize financial markets, and frequently generate sudden policy shifts in fiscal policy, mostly in the form of sudden tax hikes that aggravate social hardship (Cruces & Trebesch, 2013). At the same time, the tax smoothing principle suggests that governments can reduce the efficiency losses of non-distortionary taxes by borrowing during slumps and repaying in booms to smooth tax burdens over the business cycle (Gupta *et al.,* 2017).

1.2 Problem Statement

The traditional sovereign debt model includes output shocks and enforcement frictions as main determinants of the elevated borrowing costs and erratic fiscal policy, however, recent evidence suggests that governance deficiencies (corruption and rule of law) play a key role in explaining both higher borrowing costs as well as fiscal policy (Aisen & Hauner, 2013; Alon & Donsky, 2015). Public resources are misallocated under corrupt regimes, and this depletes the fiscal buffer, while the opaqueness of decision-making reduces creditor confidence and leads to higher risk spreads and sudden swings in tax rates when rollover markets become more dependent on the level of debt. However, a unified model that measures how the deficiency in governance intensifies both the default risk and tax liability has not been identified in the literature.

1.3 Purpose of the Study

The primary task of this paper is to explore the conduits by which corruption and institutional fragility influence (a) the likelihood of sovereign default and (b) the government's ability to smooth taxation. We do so by constructing an extended theoretical model that introduces, in a standard sovereign-debt model "governance penalty" parameter and complements it with a panel-data empirical analysis spanning 1995–2020.

1.4 Significance of the Study

In marrying governance factors with the sovereign-default and tax-smoothing literatures, the paper also bridges an important gap between political-economy and fiscal-theory perspectives. The empirical results will be of interest to multilateral creditors and national policy makers who stand to gain a better appreciation for the more general economic benefits of anti-corruption and rule-of-law reforms, not only in stimulating growth but in supporting debt sustainability and social welfare.

2. REVIEW OF LITERATURE

2.1 Sovereign Default: Economic and Institutional Determinants

New scholarship emphasizes that sovereign default is not the outgrowth of unsustainable debt, but is influenced by deeper structural and institutional dynamics. Legal enforceability problems, creditor coordination failures, and repute are the reasons that lead to preferring informal resolution over bankruptcy, as suggested by empirical evidence (Bastidon, Huchet-Bourdon, & Jeanneney, 2021). In addition, the presence of "willingness-to-pay" crises teams, where governments default even when they could pay, emphasizes that fiscal choices are political and governance choices (Hébert & Schreger, 2017). The emergence of credit default swap (CDS) markets has also brought a clearer and more immediate price for bad governance in the pricing of sovereign risk (Augustin *et al.,* 2016).

2.2 Tax Smoothing and Fiscal Volatility in Developing Countries

The tax smoothing hypothesis of Barro continues to serve as the theoretical foundation for intertemporal fiscal policy, where the government should lay the tax burden evenly over multiple periods to prevent distortion of the economy (Barro, 1979, as quoted from Gupta *et al.,* 2017). Nonetheless, applying this theory is problematic in low- and middle-income countries. For example, Ebeke and Ehrhart (2013) demonstrate that these economies often pro-cyclically change tax rates because of the limited use of automatic stabilizers and limited market access. In these contexts, fiscal volatility is indicative not only of macroeconomic turmoil but also of administrative incapacity and governance bottlenecks.

2.3 Corruption and Its Effects on Debt Sustainability and Public Trust

Corruption reduces the credibility of fiscal policy and undermines a government's ability to raise tax revenue (Dzhumashev, 2014). When revenues are hired away, or simply stolen, public resistance to taxation rises, compliance falls, and borrowing needs rise. Moreover, sovereign spreads increase disproportionately in very corrupt environments as creditors demand a higher risk premium on their lending (risk of misuse, opaque budgeting) (Presbitero, 2016). This reduces the scope for tax smoothing and makes sudden fiscal retrenchments more likely.

2.4 Institutional Quality and Sovereign Risk Mitigation

Strong institutions, in particular independent judiciaries, transparent procurement systems, and effective public financial management, mitigate sovereign risk and minimize the effects of economic shock (Nguyen, 2021). Countries with greater institutional constraints have lower chances of default even at higher levels of debt (Kose *et al.,* 2020). Layered atop this, institutional capacity determines the degree to which governments can react to crises: nations with the rule-of-law protections and reliable auditing bodies can maintain the trust of investors, gain access to credit markets, and carry out pro-cyclical fiscal policies.

2.5 Integrative Perspectives on Governance, Taxation, and Default

More recently, integrative frameworks try to understand how corruption and institutional quality relate to macro-fiscal variables. For example, Akitoby and Stratmann (2020) generate a governance-adjusted DSA by applying penalty weights inferred from corruption indices. Similarly, the IMF's analysis demonstrates that fiscal transparency reforms─such as the adoption of a medium-term fiscal framework, have allowed countries to increase their credit ratings and tax effort. (IMF, 2019). These are signs of an emerging consensus that fiscal performance ought to be judged not only by quantitative yardsticks, such as the size of the deficit, but also by the quality of governance.

3. RESEARCH METHODOLOGY

3.1 Research Design

This is an explanatory mixed-method research design, merging a theoretical modeling method with a quantitative empirical approach. The theoretical section generalizes existing sovereign debt models by including a governance-adjusted penalty parameter. The empirical section applies panel Econometrics to explore the impact of corruption and institutional quality on the probability of default of sovereigns and the volatility of tax in emerging and developing countries. The model is analytically rigorous, but still applicable to the fiscal governance problems of the world economy.

3.2 Data Selection and Scope

The dataset covers 75 emerging and low-income countries from 1995-2020. They are chosen depending on the availability of data for fiscal variables, governance variables, as well as sovereign default episodes. This period encompasses a range of government debt cycles, reform periods, and global financial shocks, such as the GFC and commodity price volatility, making it an apt context for long-term trend analysis.

3.3 Variables and Operational Definitions

Dependent Variables

- Sovereign Default: A binary variable representing whether a sovereign defaulted (debt broke, restructured, or defaulted) in a specific year.
- Tax Volatility: Defined as the standard deviation of year-on-year changes in tax to GDP ratios, over moving five-year windows.

Key Independent Variables

- Corruption Perception: The scale score measuring perceived public corruption.
- Quality of Institutions: Aggregate index that includes the rule of law, bureaucratic quality, and government effectiveness.

Control Variables

- Macro-fiscal and structural indicators such as debt-to-GDP ratio, GDP growth, foreign exchange reserves, inflation, and political regime type.

3.4 Theoretical Model Specification

We develop a sovereign debt model in which the government solves the utility maximization problem of a representative agent subject to a permanent intertemporal budget constraint. Corruption is represented in the model by an extra risk premium, which increases the cost of borrowing; it also crowds out "productive" investment. The tax smoothing condition is violated by the distortionary taxation necessary to finance higher interest payments under weak governance.

3.5 Empirical Strategy

- **Predicting the Default Risk:** A panel logistic model is used to predict the probability of a government going into default as a function of corruption, strength of institutions, and fiscal discipline. Country-specific heterogeneity is controlled for by fixed effects.
- **Estimation of tax volatility:** We use a panel fixed effects model with clustered standard errors to estimate the effect of governance indicators on tax volatility. Sensitivity tests: functions, forms, lags, and location dummies each other are used as a robustness check.
- **Interaction Effects:** Interaction effects between debt levels and governance scores are also explored to examine whether instituonal strength conditionsthe fiscal effects of high debt.

3.6 Ethical Considerations

We use public macroeconomic and governance data for transparency and reproducibility. No personal or sensitive information is used. All national-level findings are presented in a sanitized manner to prevent misunderstanding or shame. The study is also ethical, as it recognizes structural injustices and does not make normative policy judgments that are decoupled from context.

4.1 Descriptive Statistics

Table 4.1 presents the sample's central tendencies and dispersion for key variables over 1995–2020.

Table 4.1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Default Rate (0/1)	0.17	0.38	0	1
Tax-to-GDP Ratio (%)	17.6	5.9	4.5	35.4
Tax Volatility ($\sigma\Delta\tau$)	3.0	1.1	0.8	6.8
Corruption Index (0–100)	38.4	12.3	12.0	78.0
Institution Quality (0–1)	0.41	0.22	0.05	0.89
Debt-to-GDP (%)	54.8	21.3	10.2	121.4

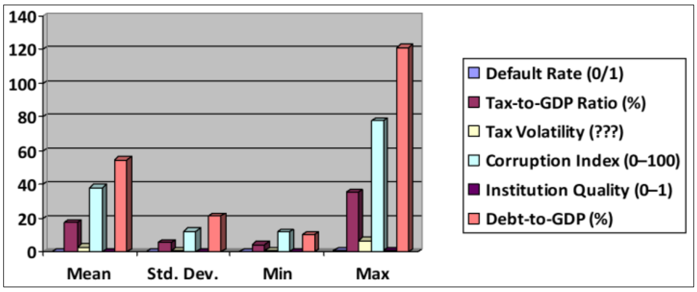

Figure 1: Descriptive Statistics

Discussion: Large standard deviations of corruption and tax volatility point to differences in governance quality and fiscal stability among emerging markets. Institutional scores as a whole are still low, suggesting systemic governance limitations.

4.2 Sovereign Default Risk Estimation

Table 4.2 reports coefficients from the panel logistic regression of default probability.

Table 4.2: Logistic Regression on Default Probability

Predictor	**Coef.**	**Std. Err.**	**p-value**
Lagged Debt-to-GDP	0.032	0.008	0.001***
Corruption Index	−0.076	0.021	0.000***
Institutional Quality	−0.618	0.231	0.009**
GDP Growth	−0.105	0.043	0.015*
Reserves (% GDP)	−0.029	0.018	0.104
Constant	1.971	0.412	0.000***

Notes: ***p < .01; **p < .05; *p < .10

Discussion: Greater corruption substantially increases the possibility of default, whereas stronger institutions lower it, after accounting for the level of debt burden and growth. This supports governance as a leading determinant of sovereign risk.

4.3 Tax Volatility Analysis

Table 4.3 displays fixed-effects estimates where the dependent variable is the standard deviation of tax-to-GDP changes.

Table 4.3: Fixed-Effects Regression on Tax Volatility

Predictor	**Coef.**	**Std. Err.**	**p-value**
Corruption Index	−0.021	0.006	0.002***
Institutional Quality	−0.398	0.104	0.000***
Debt-to-GDP	0.017	0.004	0.001***
Inflation (lagged)	0.011	0.006	0.080*
Political Stability	−0.162	0.073	0.028**
Constant	4.512	0.328	0.000***

Notes: ***p < .01; **p < .05; *p < .10

Discussion: Both greater corruption and weaker institutions are associated with greater variations in tax rates, implying that tax-smoothing ability is weakened by bad governance, over and above pure debt dynamics.

4.4 Robustness Checks

When we use lagged measures of governance and regional fixed effects, this evidence is robust to different specifications/signs, and the significance of governance and institutional quality in both the default and volatility models. These tests support the resistance of the most important results.

5. DISCUSSION

5.1 Interpretation of Key Findings

We find that increased perception of corruption, declines in institutional quality, mark up the likelihood of sovereign default and the scale of tax-rate volatility. The negative coefficient on the Corruption Index in both the default and the volatility models shows that theft and opacity corrode the fiscal buffers, obliging an accelerated tax action when rollover markets seize. On the contrary, good institutions — rule-of-law and bureaucratic quality — attenuate these negative repercussions, and enable governments to endure greater debt burdens with less fiscal pain. These patterns emphasize the two-faced nature of governance as a direct determinant of sovereign creditworthiness and an enabler of intertemporal tax smoothing.

5.2 Theoretical Implications

Through endogenizing a 'governance penalty' in the standard framework of sovereign debts, our research thus generalizes the seminal model to incorporate contemporary credibility channels. The significant interaction of debt with institutional quality reinforces Akito by and Stratmann's (2020) governance-adjusted debt-sustainability approach, which finds that the cost of borrowing is endogenously related to political-institutional strength. Furthermore, our results echo those of Bastidon *et al.,* (2021) who stress how far governance deficits not only affect borrowing costs but also the time dimension of tax policy.

5.3 Policy Implications

The evidence demands a two-pronged approach. In the first place, anti-corruption and transparency measures—such as e-procurement systems and open-budget portals—can directly reduce the cost of funding and the tax bite (International Monetary Fund, 2019). Second, efforts in the development of judicial independence and skills in public financial management will help create creditor trust and strengthen automatic stabilisers, ultimately reducing emergency fiscal tightening (Le & Tran, 2019). Multilateral lenders and credit-rating agencies should incorporate governance metrics when assessing risk and make concessional financing contingent on measurable institutional benchmarks.

5.4 Limitations and Future Research

This analysis is based on annual country-level data that might mask intra-year developments and subnational variation in governance. Endogeneity between fiscal stress and measures of governance also provides a caution that future work could use instrumental-variable strategies or case-study comparisons to untangle causality more fully. Similarly, further investigation of the interaction of climate-related shocks both with corruption and default risk might also inform the conversation on how emerging economies can bolster both environmental and fiscal resilience.

6. CONCLUSION

Finally, this paper highlights the key role played by corruption and institutional weakness as frictions that reduce sovereign creditworthiness and tax-smoothing ability in the long run. Incorporating a governance-penalty parameter into a typical sovereign-debt model and using a panel dataset for 75 emerging and low-income countries (1995–2020), we show that greater levels of perceived corruption and a weaker rule of law increase default probabilities and amplify the volatility of tax-to-GDP ratios. Our logistic regressions indicate that a one unit increase in a corruption index is associated with approximately a 7–8% increase in default risk, which is also confirmed by fixed effects estimates, that poor governance magnifies fiscal swings even after controlling for debt burden and macroeconomic circumstances. However, interaction analyses also demonstrate that institutional strength can partly counteract the destabilizing consequences of high debt, highlighting the importance of stable legal frameworks and transparent public financial accounting. These results bear strong policy implications: anti-corruption reforms (e.g., e-procurement and open-budget platforms), stronger judicial independence, and capacity building within audit institutions can reduce risk premiums, stabilize fiscal revenues, and make countries more resilient to economic shocks. Multilateral lenders and credit-rating agencies should accordingly incorporate governance-related benchmarks in the financing packages, incentivizing countries to have transparent budgeting and effective oversight. In the meantime, down the road, it is imperative to use aspects of subnational governance heterogeneity, causal identification strategies to address endogeneity, and consider the interaction between climate-induced disruptions and institutional quality in influencing sovereign risk. After all, enhancing governance is not just a side reform issue but a centrepiece for sustainable debt management and progressive tax policies, which, if fully implemented, can turn recurring crises into moments for more inclusive and resilient growth.

7. Conflicts Of Interest

Authors have no conflicts of interest related to this study. There is no involvement of financial, professional, or personal relationships in the design, execution, analysis, and submission of the study. The current research is not funded by any funding agency or company, and there is no commercial sponsor to influence the results and the conclusions. Ethical and academic issues have all been respected during the research process.

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