Does Fiscal Transparency Reduce Capital Flight During Crises in Emerging Economies?

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Abstract

This thesis examines whether fiscal transparency reduces sovereign risk premia during financial crises in emerging markets. Using data from 26 countries and two major crisis episodes (2011 and 2015), it analyzes changes in risk premia in relation to the Open Budget Index (OBI), controlling for macroeconomic conditions, credit ratings, capital account openness, and exchange rate regimes. Contrary to expectations, the findings show that higher transparency is associated with larger increases in risk premia during crises in the sample, likely due to faster market recognition of fiscal risks. This effect is absent in stable periods, possibly due to the higher baseline volatility and weaker institutional buffers typical of emerging markets, where transparency plays a different role than in advanced economies. A robustness check using the crisis-year OBI, published after the crises, confirms that investors respond to published transparency scores. The results suggest that transparency shapes the timing of market reactions, acting as a signal rather than a shield, and emphasizes its context-dependent role in investor behavior.

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1. Introduction

In times of financial crisis, emerging market economies face sharp increases in sovereign risk premia as investors reassess risks and withdraw capital (Calvo, 1998; Gelos & Wei, 2005). While prior research shows that fiscal transparency lowers borrowing costs in stable periods (Alt, Lassen, & Wehner, 2014; Glennerster & Shin, 2008), little is known about its role during crises, when market fears and capital flight threaten financial stability. This thesis aims to fill that gap, providing new evidence on whether transparent fiscal practices can protect countries from sharp risk repricing during global and local shocks.

The analysis focuses on a sample of 26 emerging market economies and two major global shocks, the eurozone debt crisis in 2011 and the Chinese-led market turmoil in 2015. Fiscal transparency is measured using the Open Budget Index (OBI)**,** a standardized metric of budget disclosure and reporting quality. The dependent variable is the change in sovereign risk premium during each crisis episode, estimated using a combination of yield curve modeling (Svensson approach) and interest parity calculations. Controls include sovereign credit ratings, macroeconomic conditions (via a PCA-derived index), capital account openness, and exchange rate regimes. Model estimation uses cross-sectional OLS with robust standard errors, and extensive robustness checks are performed to test the sensitivity of results to alternative specifications and assumptions.

The analysis finds that during crises, countries with higher fiscal transparency tend to experience larger increases in sovereign risk premia, suggesting that transparency may accelerate market recognition of fiscal vulnerabilities rather than shield against volatility. The effect is particularly pronounced in countries with open capital accounts and managed exchange rate regimes, where markets are more sensitive to policy inconsistencies. In contrast, during stable periods, transparency shows no statistically significant impact on borrowing costs, reinforcing the idea that its effects are highly context dependent. Additionally, a robustness check using crisis-year OBI scores, regardless of crisis timing, shows that markets respond to the published transparency assessments themselves, indicating that OBI scores are not just passive metrics but active signals influencing investor behavior.

These results challenge the assumption that transparency uniformly protects countries from financial volatility. Instead, transparency appears to work not as a buffer against market turbulence but a mechanism that shapes how quickly and sharply investors react to risk. While this may raise short-term costs, it can also support faster post-crisis adjustment and credibility recovery, emphasizing the dual role of transparency as both a signal of strength and a trigger for repricing.

The contribution of this study is threefold. First, it shifts the focus from long-term credibility effects to short-term crisis dynamics, a relatively underexplored area in the literature on fiscal transparency. Second, it distinguishes between crisis and stable periods, showing that transparency's impact is not constant across time. Third, it highlights how institutional context, especially capital account openness and exchange rate regimes, conditions transparency's effects, offering a more composite understanding of when and how transparency shapes investor behavior in emerging markets. In general, these findings provide new insights for both theory and policy on the role of transparency in sovereign risk pricing under stress.

The remainder of the thesis is structured as follows: Section 2 reviews the literature on fiscal transparency and borrowing costs. Section 3 presents the data and variables. Section 4 introduces the empirical models. Section 5 discusses the main results and robustness checks. Finally, Sections 6 and 7 provide the conclusion, policy implications and directions for future research.

2. Literature Review

The relationship between fiscal transparency and sovereign risk has attracted growing attention in both academic and policy circles over the past two decades, particularly in the wake of recurring financial crises and increasing concerns over debt sustainability in emerging markets (IMF, 2012; Alt, Lassen, & Wehner, 2014). As governments become more integrated into global capital markets, the quality and credibility of fiscal information have taken on greater importance for investors, credit rating agencies, and international institutions seeking to assess sovereign creditworthiness. Fiscal transparency, defined as the clarity, reliability, and openness with which governments report fiscal activities, including budgets, debts, deficits, and contingent liabilities (Kopits & Craig, 1998) is seen as a factor in shaping market expectations and promoting responsible fiscal behavior. Theoretically, transparency enhances market discipline by reducing information asymmetries between governments and investors, allowing markets to more accurately assess fiscal sustainability and price risk accordingly (Bernoth & Wolff, 2008; Kopits & Craig, 1998).

This chapter reviews the main theoretical arguments and empirical findings that link fiscal transparency to sovereign risk. It begins by reviewing how the effect of transparency differs between stable and crisis periods, and then turns to how these dynamics vary across emerging and advanced economies. The final section of the review discusses how fiscal transparency interacts with structural factors such as capital account openness and exchange rate regimes, two conditions that shape the intensity and direction of capital flows during crises. The final section examines how structural factors such as capital account openness and exchange rate regimes condition the impact of transparency during turbulent periods. Collectively, these reviews provide the foundation for the empirical analysis that follows and position this thesis within broader debates about how transparency functions as a signal to markets and as a potential tool to limit capital flight during crises.

2.1. Stable versus Crisis Periods

Most empirical studies find that under normal market conditions, fiscal transparency lowers borrowing costs. Glennerster and Shin (2008), studying 23 emerging markets, found that adopting IMF transparency reforms reduced sovereign bond spreads by about 11% on average. Kemoe and Zhan (2018) identified similar effects, breaking transparency into components like budget openness, data availability, and accountability, all of which contributed to lower spreads even when accounting for broader economic conditions. Metz's (2024) meta-analysis further revealed that transparency reduces short-term borrowing costs in developing economies and reinforces long-term fiscal credibility in advanced economies. Escolano and Arbatli (2012) also found that transparent countries often receive better credit ratings, which themselves help lower borrowing costs, particularly in emerging markets.

However, the dynamics change during crises. Examining the 2008 global financial crisis, Benito, Guillamón, and Bastida (2016) found that transparency was linked to higher borrowing costs at the onset of the crisis, as transparent governments revealed fiscal weaknesses more quickly, prompting faster and sharper market reactions. In contrast, opaque governments were able to temporarily mask vulnerabilities, delaying market repricing. Follow-up studies (Benito et al., 2016; International Budget Partnership, 2011) show that while transparency may amplify short-term volatility, it helps countries adjust faster and recover credibility in post-crisis phases.

These studies point to an important distinction that while transparency generally lowers borrowing costs in stable periods, its impact may shift during crises, potentially amplifying short-term market reactions. Recognizing this difference is essential for understanding how fiscal transparency interacts with investor behavior under varying economic conditions, and it frames the need to explore its role specifically during periods of financial stress.

2.2. Emerging versus Advanced Economies

In advanced economies, fiscal transparency typically operates within a context of already-strong institutional system and relatively high baseline transparency. In these settings, transparency serves primarily to reinforce fiscal discipline, support long-term creditworthiness, and enhance institutional credibility

(Escolano & Arbatli, 2012). Because these countries often rely on stable domestic investor bases, their borrowing costs are less sensitive to short-term shifts in perceived information quality (Gelos & Wei, 2005).

By contrast, emerging markets face greater information asymmetries and higher perceived risk, which makes transparency a much more critical tool for building investor confidence. These countries often depend on external financing and are therefore more exposed to the judgment of international markets. Glennerster and Shin (2008) found that IMF-led transparency reforms produced the largest bond spread reductions in emerging markets with initially low levels of fiscal openness, underscoring the disproportionate benefits of transparency in these contexts. Similarly, Kemoe and Zhan (2018) show that budget openness, data availability, and fiscal accountability are primarly effective in reducing borrowing costs in developing countries.

This distinction is especially relevant for this study, which focuses on the role of transparency in emerging markets during periods of financial stress. By isolating the effects of transparency in countries more vulnerable to capital flight and shifts in investor sentiment, this research contributes to a better understanding of whether transparency can function as a stabilizing factor when markets become volatile.

2.3. The Importance of Policy Context

The effectiveness of fiscal transparency in shaping investor behavior is closely tied to broader institutional and structural conditions. Several studies find that transparency reforms yield stronger results when implemented in environments with stable governance and credible enforcement mechanisms (Dabla-Norris & Gulde, 2002). In such contexts, investors are more likely to interpret and act upon disclosed fiscal information, increasing the signaling power of transparency.

Institutional quality further enhances transparency's impact. When markets can trust the accuracy and consistency of fiscal signals, the credibility of government disclosures improves, leading to more accurate pricing of sovereign risk. Escolano and Arbatli (2012) demonstrate that transparency contributes both directly by reducing risk premia and indirectly by improving sovereign credit ratings, which influence market perceptions. This is especially evident for emerging markets, where investor trust is more fragile and risk premia are more sensitive to perceived credibility.

Capital account openness also plays a central role in shaping how transparency affects market behavior. In economies with fewer restrictions on cross-border flows, fiscal transparency can heighten both inflows and outflows, depending on the macroeconomic context (Bernoth & Wolff, 2008; Calvo, 1998). During crises, transparent countries may face quicker capital adjustments, either positive or negative, because markets respond rapidly to available information. In this sense, transparency can act as both a stabilizer and a magnifier of market reactions.

Some scholars also point to non-linear effects, suggesting that the benefits of transparency may depend on a country's starting point. Alt and Lassen (2014) argue that marginal gains from transparency are greater in already transparent environments, where fiscal information is more readily interpreted. Others, like Cady and Pellechio (2006), suggest that credit ratings already reflect many transparency-related signals, potentially limiting the incremental effect of new reforms. Reinhart and Rogoff (2009) further note that financial markets are forward-looking, meaning transparency may shape the timing and intensity of market reactions rather than offering full protection from volatility.

Together, this body of literature stresses that fiscal transparency does not function in isolation. Its influence depends not only on the availability of information, but also on whether that information is credible, timely, and interpreted within an institutional environment that supports market trust.

However, despite these observations, there remains limited understanding of how transparency plays out during periods of acute financial stress, especially in emerging markets, where investor sentiment can shift rapidly, and institutions may be less robust. This thesis addresses that gap by analyzing how fiscal transparency, measured through the Open Budget Index (OBI), affects sovereign risk premia and, by extension, capital flight pressures across emerging economies. By focusing specifically on crisis periods, it explores whether transparency serves not only as a long-term credibility signal but also as a short-term buffer against market volatility and outflows.

3. Data

The purpose of this study is to examine the relationship between fiscal transparency and sovereign risk premia during periods of financial stress. The analysis draws on a dataset that combines financial market indicators, institutional measures, and macroeconomic variables for a sample of 26 emerging economies. These countries were selected based on the availability of Open Budget Index (OBI) data.

The primary outcome variable, risk premium (RP), is constructed based on the Svensson model and the uncovered interest parity (UIP) condition, using sovereign bond yield spreads and exchange rate expectations. To identify episodes of market stress, an episode detector is applied, flagging periods where risk premia exhibit significant jumps relative to historical trends in several neighboring countries at once.

To capture the underlying macroeconomic environment, a composite variable (MacroVar) is constructed using principal component analysis (PCA) on key macroeconomics indicators, including growth, inflation, and current account balance. Additionally, country credit ratings are transformed into numeric scores and averaged across major rating agencies to create a standardized measure (CreditRating) of perceived sovereign risk.

Finally, the change in risk premium (RP_change) is calculated using a permutation-based method, identifying significant shifts in market sentiment in the aftermath of identified crisis periods. The dataset integrates all these elements to enable a detailed empirical analysis of how fiscal transparency, measured via the Open Budget Index (OBI), interacts with market perceptions, controlling for broader economic and institutional conditions. The datasets used in this thesis, including crisis and stable period indicators, macroeconomic variables, and fiscal transparency scores, are publicly available in the accompanying GitHub repository. The repository also contains the full R code used for data processing, model estimation, and robustness checks. The datasets and code used in this thesis are available at the following GitHub repository: https://github.com/OtgonzayaB/Fiscal-Transparency (Battulga, 2025).

3.1. Sovereign Risk Premia

To estimate sovereign bond risk premia across countries, two methodological approaches were applied, depending on the availability of data: the Svensson (1994) parametric yield curve model and, alternatively, the uncovered interest parity (UIP) approach for countries lacking detailed sovereign bond data.

3.1.1. Risk Premium calculation based on Svensson Parameters

For countries with sufficient bond market data, the risk premium was calculated using the Svensson (1994) model, an extension of the Nelson-Siegel (1987) model. The Svensson model is widely used to fit government yield curves, offering flexibility to capture the shape of the term structure of interest rates across maturities and, hence, facilitating the complex interpolation-based estimation of zero-coupon yields for maturities, for which no instrument is actually traded on the market.

The Svensson specification expresses the zero-coupon yield at maturity *t* as:

$$y(t) = \beta_0 + \beta_1 \frac{1 - e^{-t/\tau_1}}{t/\tau_1} + \beta_2 \left(\frac{1 - e^{-t/\tau_1}}{t/\tau_1} - e^{-t/\tau_1} \right) + \beta_3 \left(\frac{1 - e^{-t/\tau_2}}{t/\tau_2} - e^{-t/\tau_2} \right)$$

Where:

- β_0 captures the long-term level (long end of the yield curve),
- β_1 shapes the short-term slope ($\beta_0 + \beta_1$ is the short end of the yield curve),
- β_2 adds a medium-term hump,
- β_3 allows for a second hump (added curvature),
- τ_1, τ_2 are decay factors determining how quickly the factors diminish with the lengthening of the maturity.

For each sovereign bond, typically denominated in euros or U.S. dollars and issued as fixed-coupon or zero-coupon instruments, the theoretical zero-coupon yield curve was fitted using the Svensson parameters over the available maturities. From the model-implied yields, discount factors were computed for each future cash flow elements (both coupon and principal) as:

$$DF(t) = e^{-y(t)\cdot t}$$

The theoretical bond price was calculated as the sum of discounted cash flows:

$$P_{model} = \sum_{i} CF_i \cdot DF(t_i)$$

Where CF_i is the cash flow at time t_i. The model-implied price P_{model} was compared against the observed market price P_{actual} on the same valuation date. To align the model price with the observed market price, a country-specific risk premium RP was iteratively added to the parameter β_0. As mentioned above, this parameter is equal to the long end of the yield curve, but its adjustment implies a parallel shift of the whole yield curve as well. This approach implicitly assumes that the annualized risk premium is the same across all maturities.

The premium was calculated by adjusting the country-specific risk premium so that the model-implied price exactly matched the observed market price:

$$P_{model}(RP) = P_{actual}$$

This process yielded a monthly time series of the estimated risk premium for each country from June 2007 to December 2024, reflecting the extra compensation markets require for sovereign credit and liquidity risks beyond the base risk-free rate.

3.1.2. Risk Premium calculation based on Uncovered Interest Parity

For countries where detailed sovereign bond data were not available or where market depth was insufficient to reliably estimate risk premia using the Svensson model, the risk premium was instead approximated using the uncovered interest parity (UIP) framework.

The UIP approach rests on the idea that, under no-arbitrage conditions, the interest rate differential between a local-currency-denominated bond and a reference bond (typically in U.S. dollars) should equal the expected depreciation of the local currency relative to the reference currency. Deviations from this parity reflect country-specific risk premia demanded by investors for holding sovereign debt.

Formally, the UIP condition can be expressed as:

$$i_t - i_t^* = E_t(\Delta s_{t+1}) + RP_t$$

Where:

- i_t is the domestic short-term interest rate,
- i_t^* is the reference (e.g. US) short-term interest rate,
- $E_t(\Delta s_{t+1})$ is the expected change in the exchange rate (local currency per dollar)
- RP_t is the sovereign risk premium.

In practice, the expected depreciation term is challenging to observe directly. Therefore, under simplifying assumptions, the risk premium was proxied as the residual component after accounting for observable interest rate differentials:

$$RP_t \approx (i_t - i_t^*) - \Delta s_t$$

where Δs_t is the actual change in the exchange rate over the relevant horizon, typically measured using forward exchange rates or recent trends. This approach was applied to countries (see Appendix A) that predominantly issue domestic-currency debt or where external bond data were limited, providing a complementary and consistent measure of sovereign risk premia across the broader emerging market sample.

By combining the Svensson-derived and UIP-derived measures, the dataset harmonizes sovereign risk premium estimates across diverse country contexts, enabling cross-country and cross-time analysis in the empirical models.

3.2. Crisis Episode Detection

To identify periods of significant market stress or volatility, an episode detection procedure was applied to the risk premium series. The goal was to isolate moments when risk premium movements reflected meaningful shifts in investor sentiment and heightened country-specific risk, rather than routine financial fluctuations.

For each country, a 24-month rolling window was used to calculate the historical mean (μ_c) and standard deviation (σ_c) of the monthly change in risk premium ($\Delta RP_{c,t}$). An "episode" was flagged when the absolute monthly change exceeded two standard deviations above the rolling mean:

$$\left|\Delta RP_{c,t}\right| > \mu_c + 2\sigma_c$$

Where:

- $\Delta RP_{c,t}$ is the monthly change in the risk premium,
- μ_c is the historical mean of monthly changes,
- σ_c is the historical standard deviation of monthly changes.

This approach ensured that only extreme jumps, interpreted as potential crisis or recovery signals were captured. To identify broader regional crises, the flagged country-level episodes were aggregated each month.

When clusters of countries within a region simultaneously displayed extreme movements, the period was classified as a regional crisis episode.

The final episode classification aligned with historically known crisis windows, ensuring the analysis focused on economically meaningful periods. Specifically, the detected crises were:

- Eastern Europe (2011)**:** The post-August spike in risk premia coinciding with the eurozone sovereign debt crisis (Ullah & Ahmed, 2014).
- Latin America & Southeast Asia (2015)**:** The third-quarter market stress linked to the Chinese yuan devaluation (U.S. Office of Financial Research, 2015) and the U.S. Federal Reserve's anticipated December 2015 interest rate hike (World Economic Forum, 2015), with August 2015 marked as the regional crisis trigger point.

This episode detection procedure established the time frame for subsequent analyses, allowing the study to examine pre- and post-crisis dynamics and ensure the focus remained on periods of heightened financial vulnerability.

3.3. Risk Premium Change

To quantify the impact of fiscal transparency and macroeconomic fundamentals on sovereign risk, the key dependent variable in the empirical models is the change in risk premium (RP_change) observed during each country's identified crisis period. However, to ensure that the measured change is not simply driven by random short-term fluctuations, a statistical filtering procedure was applied. Specifically, a randomization method was used to assess whether the observed risk premium change around the crisis period was significantly larger than changes observed in randomly selected non-crisis periods.

For each country, the average monthly change in the risk premium was calculated over the six months before and after the crisis month, producing an "observed" crisis-period change. To assess whether this observed change was statistically significant, a null distribution was constructed by generating 10,000 random samples drawn from the country's time series outside the crisis window. For each random twelve-month window, the average risk premium change was computed, creating a reference distribution of typical non-crisis fluctuations. The observed crisis-period change was then compared against this null distribution. Specifically, a p-value was calculated as the proportion of random samples that produced a change as large or larger than the observed crisis-period change. This allowed for an assessment of whether the crisis-period change was statistically distinguishable from ordinary market variation.

By using this randomized testing approach, the study increases confidence that the dependent variable (RP_change) reflects substantive shifts in market perceptions of sovereign risk triggered by external or domestic shocks, rather than idiosyncratic or technical price movements.

Table 1 below reports the observed changes in sovereign risk premia for each country, along with their corresponding p-values.

Table 1. Significant Risk Premium Change by Country

Country	Observed Difference	P-value
Latin America		
Bolivia	-0.32	0.05
Brazil	1.87	0.00
Chile	0.26	0.00
Colombia	1.12	0.00
Costa Rica	0.97	0.00
Dominican Republic	0.60	0.00
El Salvador	2.04	0.00
Guatemala	0.53	0.00
Honduras	0.33	0.03
Mexico	0.54	0.00
Nicaragua	1.58	0.00
Peru	0.57	0.00
Eastern Europe		
Albania	-0.32	0.02
Bulgaria	1.08	0.00
Croatia	2.60	0.00
North Macedonia	1.53	0.00
Poland	0.70	0.00
Romania	1.60	0.00
Slovenia	2.06	0.00
Ukraine	1.34	0.00
Southeast Asia		
Cambodia	0.15	0.02
Indonesia	0.76	0.00
Malaysia	0.47	0.01
Philippines	0.18	0.00
Thailand	-0.18	0.01
Vietnam	0.75	0.00

Source: Own calculation.

3.4. Open Budget Index (OBI)

The key independent variable in this analysis is the Open Budget Index (OBI), which serves as a proxy for fiscal transparency. The OBI is compiled biennially by the International Budget Partnership and assesses the availability and comprehensiveness of budget information provided by national governments. The index scores countries on a scale from 0 to 100, with higher values indicating greater transparency in fiscal reporting, including the publication of executive budget proposals, enacted budgets, in-year reports, year-end reports, and audit findings. For the purposes of this study, the OBI variable is matched to country-year observations, using the latest available OBI score prior to each crisis episode. This ensures that the measure reflects the transparency environment in place at the time financial stress emerged, rather than post-crisis reforms or adjustments.

3.5. Control Variables

3.5.1. Macroeconomics Composite Index

To capture the broader macroeconomic conditions that influence sovereign risk premia, a composite variable labeled MacroVar was constructed using principal component analysis (PCA). This approach reduced dimensionality by summarizing key pre-crisis economic indicators into a single index, ensuring that the most important sources of variation were retained while avoiding issues of multicollinearity in the regression models.

The macroeconomic indicators included in the PCA were drawn from international financial databases and encompassed GDP growth, inflation, and current account balances. All variables were taken from the year prior to the identified crisis episodes, ensuring the analysis reflected the pre-crisis economic environment and not contemporaneous or post-shock adjustments. This lag structure was crucial to minimize endogeneity concerns and isolate the effect of prior macro fundamentals on risk premium dynamics during crises.

The first principal component (PC1), explaining approximately 42% of the total variance across these indicators, was extracted and used as the MacroVar index (see Appendix E). This index captures a meaningful and parsimonious summary of underlying macroeconomic health, with positive loadings on GDP growth and inflation, and a negative loading on current account balances. In other words, a higher MacroVar score reflects an environment of stronger growth and rising price pressures, often accompanied by larger external deficits. Conceptually, this serves as a "macroeconomic heat" indicator, summarizing both the intensity of economic activity and the level of imbalances prior to the crisis.

In the empirical models, the MacroVar coefficient is interpreted as the marginal effect of pre-crisis macroeconomic conditions on the change in sovereign risk premia during crisis episodes. While initial models included GDP growth, inflation, and current account balance separately, only the current account balance showed limited statistical significance. By contrast, the PCA-derived MacroVar index consistently yielded stronger and more robust results. This suggests that while single macro indicators carry some predictive power, it is the combined structural patterns across fundamentals that provide a clearer signal for explaining variations in sovereign risk premium behavior.

Overall, the use of MacroVar represents a practical decision to balance simplicity with explanatory value, allowing the models to incorporate a country's macroeconomic fundamentals when assessing the relationship between fiscal transparency and market risk.

3.5.2. Sovereign Credit Ratings

To account for sovereign creditworthiness in the empirical analysis, this study includes a composite credit rating variable that captures each country's standing in international credit markets prior to the crisis episodes. Specifically, the credit ratings are based on the assessments provided by the three major international rating agencies: Standard & Poor's (S&P), Moody's, and Fitch.

To ensure comparability across agencies and countries, I followed the standardized numerical conversion scheme developed by Escolano and Arbatli (2012), which maps each agency's letter-grade rating (e.g., AAA, BBB, B) into a consistent numerical scale (see Appendix B). Under this scheme, the highest investment-grade ratings are assigned higher numerical values, while lower ratings (speculative grade and below) receive progressively smaller scores, reflecting increased sovereign risk and default likelihood.

For each country, the numerical scores from S&P, Moody's, and Fitch were averaged to generate a single summary credit rating variable. This averaging approach smooths out potential discrepancies between agencies and provides a balanced measure of the sovereign's overall perceived credit quality. Importantly, the credit rating data were taken from the year preceding each country's identified crisis episode. This ensures that the empirical models capture the influence of pre-crisis creditworthiness on subsequent risk premium dynamics, rather than contemporaneous or post-shock rating changes that might themselves be endogenous to crisis outcomes.

In the regression models, the coefficient on the credit rating variable is interpreted as the marginal effect of sovereign credit quality on the change in risk premia during crisis periods. A negative and statistically significant coefficient would indicate that countries with stronger pre-crisis credit ratings experienced smaller increases in their risk premia when global or regional shocks materialized, consistent with the idea that solid credit fundamentals act as a protective buffer in times of financial stress (Escolano & Arbatli, 2012; Glennerster & Shin, 2008).

3.5.3. Capital Account Openness (KAOPEN)

Capital account openness is measured using the KAOPEN index developed by Chinn and Ito (2006), which quantifies the degree of a country's de jure capital account openness based on information from the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). The index is normalized and ranges from 0 to 1, with higher scores indicating fewer restrictions on cross-border financial transactions and a more liberalized capital account. In this study, the KAOPEN values were taken from the year prior to each crisis episode to ensure exogeneity. The empirical models include KAOPEN as a control variable to account for the influence of capital account openness on risk premium adjustments. Its inclusion helps isolate the distinct effect of transparency by controlling for differences in financial openness across countries.

3.5.4. Exchange Rate Regime

Finally, the exchange rate regime is introduced to account for how different monetary systems shape investor reactions. Each country is classified into one of two categories: managed, or flexible exchange rate arrangements, based on the IMF's AREAER classifications. To operationalize this in the regression models, the regimes are included as categorical (factor) variables, with the flexible regime typically set as the reference group. Additionally, interaction terms between OBI and the exchange rate regime categories are tested to examine whether the marginal effect of fiscal transparency on risk premia varies systematically across monetary policy frameworks.

Overall, these institutional variables strengthen the empirical study by controlling for deeper structural and policy contexts, ensuring that the estimated effects of fiscal transparency are not confounded by differences in capital mobility, political environment or currency regimes.

Table 2 presents the descriptive statistics for the main variables used in the empirical analysis, summarizing their central tendencies and variability across the sample.

Table 2. Descriptive Statistics.

Variables	Mean	Standard Dev.	Min.	Max.
Dependent Variable				
RP_change	0.88	0.77	-0.32	2.60
Independent Variable				
OBI	48.61	16.52	11.93	73.02
Control Variables				
MacroVar	0	1.12	-2.08	1.99
Current_account	-2.87	3.81	-11.36	4.39
Inflation	3.90	2.05	0.2	9.4
GDP_growth	4.02	2.88	-3.90	8.33
CreditRating	12.11	3.27	7	19
KAOPEN	0.59	0.28	0	1

Source: Own calculation.

4. Empirical Models

This chapter outlines the empirical analysis used to investigate how fiscal transparency affects sovereign risk premia during crisis episodes, conditional on macroeconomic fundamentals, exchange rate regime, and capital account openness.

The primary hypothesis is that higher fiscal transparency, as measured by the Open Budget Index (OBI), is associated with smaller increases in sovereign risk premia during periods of financial stress. This builds on prior research (e.g., Glennerster & Shin 2008; Escolano & Arbatli 2012), which shows that transparent fiscal strategies improve market credibility and reduce the likelihood of abrupt sovereign repricing. Transparent countries are better able to signal fiscal sustainability, reducing investor uncertainty during global shocks.

To assess this, the following baseline regression model is estimated:

$$RP_{change_i} = \alpha + \beta_1 OBI_i + \beta_2 CreditRating_i + \beta_3 MacroVar_i + \varepsilon_i \quad (1)$$

where RP_change_i represents the observed change in sovereign risk premium for country i during the crisis window, OBI_i is the Open Budget Index measuring fiscal transparency, $CreditRating_i$ is the numerical credit rating prior to the crisis, $MacroVar_i$ is the composite macroeconomic index derived from PCA based on the pre-crisis indicators, and ϵ_i is the error term.

Including credit ratings reflects the argument that fiscal transparency effects are conditional on a country's baseline creditworthiness, as more transparent countries might benefit more from market trust if their fundamentals are already perceived as stable (Ramos & Takeda 2019). The macroeconomic controls capture underlying growth, inflation, and external balance pressures, avoiding confounding effects from domestic vulnerabilities.

To investigate whether capital account openness amplifies or moderates the effect of fiscal transparency, the model expands to include:

$$RP_{change_i} = \alpha + \beta_1 OBI_i + \beta_2 CreditRating_i + \beta_3 MacroVar_i + \beta_4 KAOPEN_i + \varepsilon_i \quad (2)$$

where $KAOPEN_i$ measures the Chinn-Ito capital account openness index.

Finally, to account for structural currency management, the model includes exchange rate regime controls grouped into flexible and managed categories:

$$RP_{change_i} = \alpha + \beta_1 OBI_i + \beta_2 CreditRating_i + \beta_3 MacroVar_i + \beta_4 KAOPEN_i + \beta_6 FX\_group_i + \varepsilon_i \quad (3)$$

where $ManagedFX_i$ is a dummy variable representing the exchange rate regime categories, with flexible regimes as the reference group. Including these controls aligns with the literature (e.g., Calvo & Reinhart 2002) showing that exchange rate management shapes how fiscal shocks transmit into sovereign risk, as flexible regimes may buffer external adjustments differently than managed systems.

All models are estimated using ordinary least squares (OLS) with robust standard errors to account for potential heteroskedasticity. Given the modest sample size (26 countries), careful attention is given to balancing model complexity against available degrees of freedom, ensuring that interaction effects and institutional controls are theoretically justified and statistically meaningful.

Model selection is guided by both goodness-of-fit metrics (adjusted R^2, AIC, BIC) and theoretical interpretability, following best practices from the transparency and fiscal risk literature (Alt & Lassen 2006; Gelos & Wei 2005). AIC and BIC values for the model specifications are provided in Appendix F. Alternative specifications, robustness checks, and additional interaction terms (e.g., with regional dummies) are discussed separately in the robustness section.

5. Results

5.1. Main Results

This section presents the main empirical findings on how fiscal transparency affects sovereign risk premium changes during crisis periods. The results are based on three models that incrementally introduce institutional and structural variables, each designed to test whether transparency continues to matter once more complex country characteristics are accounted for. Model 1 provides a baseline assessment, while Models 2 and 3 gradually incorporate capital account openness and exchange rate regimes to reflect broader economic and policy contexts. The improved model fit across specifications also helps identify the most robust drivers of risk premium variation during episodes of financial stress. Variance Inflation Factor (VIF) tests were also conducted to assess multicollinearity across explanatory variables, and the results indicate that multicollinearity is not a concern in any of the model specifications (see Appendix G.1).

The below Table 3 presents the regression estimates from three main model specifications assessing the relationship between fiscal transparency and changes in sovereign risk premia during crisis episodes.

Table 3. Main Results Summary.

Dependent Variable: RP_change	**Model (1)**	**Model (2)**	**Model (3)**
OBI	0.046***	0.046***	0.050***
	(0.009)	(0.009)	(0.007)
CreditRating	-0.177**	-0.186**	-0.124*
	(0.053)	(0.050)	(0.047)
MacroVar	-0.368*	-0.375**	-0.348**
	(0.131)	(0.123)	(0.105)
KAOPEN		0.771*	0.741*
		(0.382)	(0.325)
FxgroupManaged			0.713**
			(0.238)
Constant	0.755	-0.403	-0.889
	(0.480)	(0.482)	(0.595)
Observations	26	26	26
Adjusted R^2	0.45	0.51	0.65

Note: Numbers in parentheses are robust standard errors. Asterisks indicate significance levels as follows: *** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.10. **Source:** Own calculation.

The first model evaluates the core relationship between fiscal transparency and changes in sovereign risk premia during the region-specific crisis episode. It controls for two key factors that influence market perceptions, creditworthiness and macroeconomic fundamentals, while focusing on the role of the Open Budget Index (OBI) as a measure of transparency.

The results show that higher fiscal transparency is associated with significantly larger increases in risk premia during crisis periods. The coefficient on OBI is positive and highly significant ($\beta \approx 0.047$, $p < 0.001$), suggesting that more transparent countries experience sharper market reactions when crises unfold. While this may appear counterintuitive at first glance, one plausible explanation is that transparency facilitates faster market recognition of fiscal vulnerabilities. When investors have timely and reliable fiscal information, they may respond more quickly and more strongly to early signs of stress, especially under uncertain global conditions. However, it is important to emphasis that this difference in market reaction only applies to countries with the same credit rating and macro conditions. It means that when two countries with the same credit rating and the same macro situation are hit by the same negative shock, markets reactions will be quicker and more pronounced in the fiscally more transparent country. In contrast, when higher fiscal transparency is accompanied by stronger credit ratings, market responses may differ, potentially reducing the extent of repricing, though this relationship was not directly tested in this model.

In addition to the OBI effect, both credit ratings and macro fundamentals perform as expected. Countries with stronger credit ratings experience significantly smaller risk premium increases ($\beta \approx -0.18$, $p = 0.003$), and those with more favorable macroeconomic conditions also see lower risk adjustments ($\beta \approx -0.37$, $p = 0.010$). Combined, these findings validate the model's structure and provide a solid foundation for deeper investigation.

Building on the baseline, the second model introduces the capital account openness index (KAOPEN) to examine whether the degree of financial openness influences how markets respond to fiscal transparency.

This is based on the idea that in countries with more open capital accounts, where cross-border financial flows can move more freely, investor reactions may be more immediate and volatile during periods of uncertainty.

The core findings remain intact as the transparency coefficient ($\beta \approx 0.047$, $p < 0.001$) retains its size and significance, reinforcing the view that transparent countries see more immediate pricing of fiscal risks. The significance of the new KAOPEN variable ($\beta \approx 0.77$, $p = 0.057$) adds an important nuance that countries with more open capital accounts tend to face larger risk premium spikes during crises, likely due to the speed and scale with which capital flows respond to perceived vulnerabilities. During crises, international investors often reduce their exposure not just to individual countries, but to entire regions. In countries with more liberalized capital accounts, this withdrawal tends to occur more rapidly. As a result, bonds in these economies are sold off more quickly, causing prices to fall and risk premia to rise more sharply. This dynamic may even lead to short-term overshooting in risk pricing, as capital flows respond aggressively to perceived vulnerabilities.

Credit ratings and macroeconomic indicators remain stable and significant, indicating that the inclusion of KAOPEN does not distort the foundational relationships identified in the baseline model. Importantly, the overall fit of the model improves (adjusted R^2 increases from 0.45 to 0.52), suggesting that financial openness helps explain additional variation in risk premium changes.

The third and final model extends the previous specification by introducing exchange rate regime categories. Specifically, it includes a dummy for countries with managed exchange rates to test whether transparency interacts with structural currency arrangements.

This expanded model reveals several key insights. First, the coefficient on fiscal transparency increases slightly and remains highly significant ($\beta \approx 0.051$, $p < 0.001$), noting the robustness of the earlier results. Even after accounting for both financial openness and exchange rate structure, more transparent countries continue to experience more pronounced risk premium increases during crises.

Second, the new exchange rate variable is positive and significant ($\beta \approx 0.71$, $p = 0.007$), indicating that managed exchange rate regimes are associated with larger sovereign risk adjustments when global shocks hit. This result aligns with previous research suggesting that managed regimes may create tension between domestic policy goals and market expectations, especially when transparency makes inconsistencies more visible.

KAOPEN also remains significant ($\beta \approx 0.74$, $p = 0.034$), reaffirming the amplifying role of capital mobility. Credit ratings and macroeconomic fundamentals continue to exert strong protective effects, confirming the importance of country fundamentals alongside institutional variables.

With an adjusted R^2 of 0.65, Model 3 delivers the best explanatory power among all three specifications. The progression from Model 1 to Model 3 illustrates how transparency operates within a broader ecosystem that while it may increase market sensitivity to fiscal conditions, this effect is intensified when countries are more financially open or maintain less flexible currency regimes.

In summary, the results suggest that fiscal transparency plays a complex but powerful role in shaping how markets react to sovereign risk during crisis periods. Rather than dampening market reactions, transparency appears to front-load them by bringing risks to light earlier and prompting more immediate repricing. These dynamics are most pronounced in settings with greater capital mobility and less exchange rate flexibility, where market expectations are more sensitive to perceived inconsistencies between policies and fundamentals.

5.2. Robustness Checks

To assess the validity and resilience of the main empirical findings, this chapter introduces a series of seven robustness checks, each designed to test the sensitivity of results to alternative modeling choices, time frames, and assumptions about how fiscal transparency is perceived and interacts with other structural features. These models go beyond the baseline specifications by incorporating region and year fixed effects, exploring delayed market responses among low-transparency countries, and testing whether financial markets respond more to published transparency scores or to broader reputational signals. Additional checks examine non-linear relationships, extend the analysis to stable (non-crisis) periods, and assess interaction effects between transparency and exchange rate regimes. Collectively, these tests provide a thorough examination of the robustness of the estimated effects of fiscal transparency on sovereign risk premia, helping to identify the boundaries and conditions under which the core results hold.

The below Table 4 summarizes the results of these robustness checks, focusing on the stability of the OBI coefficient, and the key control variables. Variance Inflation Factor (VIF) tests were also conducted to assess multicollinearity, and the results confirm that multicollinearity is not a concern in the model (see Appendix G.2). By comparing these alternative models to the main specifications, the analysis demonstrates that the central conclusions are not driven by model choice, sampling window, or omitted fixed factors.

Table 4. Robustness Checks Results Summary.

	R1 (region)	**R2** (year)	**R3** ($\mathbf{OBI^2}$)	**R4** (peak delay)	**R5** (Crisis-Year OBI)	**R6** (stable times)	**R7** (OBI: FXgroup)
Dependent Variable	RP change	RP change	RP change	RP peak delay	RP change	RP level	RP change
OBI	0.04*** (0.00)	0.04*** (0.00)	0.06*** (0.00)	0.06* (0.02)	0.03** (0.01)	0.01 (0.01)	0.05*** (0.01)
$\mathrm{OBI\_c}^2$			0.0005 (0.0003)				
CreditRating	-0.12* (0.05)	-0.12* (0.04)	-0.14** (0.04)	-0.38* (0.15)	-0.05 (0.06)	-0.30** (0.09)	-0.13* (0.04)
MacroVar	-0.32* (0.11)	-0.33** (0.10)	-0.37** (0.10)	-0.25 (0.35)	-0.13 (0.13)	0.13 (0.17)	-0.34** (0.10)
KAOPEN	0.79* (0.36)	0.74* (0.33)	0.80* (0.31)	1.15 (1.08)	0.46 (0.47)	-0.41 (0.69)	0.58 (0.36)
FXmanaged	0.69* (0.25)	0.68* (0.24)	0.73** (0.22)	0.97 (0.79)	0.65 . (0.34)	0.36 (0.59)	0.44 (0.32)
(year)2015		-0.13 (0.21)					
(region)LA	-0.16 (0.23)						
(region)SEA	-0.06 (0.31)						
OBI_low							-0.18 (0.40)
OBI_low: FXmanaged							0.58 (0.36)
Constant	0.76 (0.70)	-0.70 (0.66)	1.62* (0.62)	3.83. (1.98)	-0.72 (0.85)	4.92** (1.36)	-0.84 (0.81)
Observations	26	26	26	26	26	26	26
Adjusted R^2	0.62	0.63	0.67	0.29	0.28	0.60	0.64

Note: Numbers in parentheses are robust standard errors. Asterisks indicate significance levels as follows: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.10$. **Source:** Own calculation.

5.2.1. Robustness Check 1: Controlling for Regional Effects

The first robustness check introduces regional fixed effects to test whether the relationship between fiscal transparency and sovereign risk premia is driven by regional clustering. Specifically, dummy variables for Latin America (LA) and Southeast Asia (SEA) are included alongside the main explanatory variables.

The results confirm the robustness of the main findings. The coefficient on fiscal transparency (OBI) remains positive and highly significant ($\beta \approx 0.050$, $p < 0.001$), indicating that even after accounting for regional differences, more transparent countries experience larger increases in risk premia during crisis periods. This supports the view that transparency facilitates quicker market repricing of fiscal risk.

Other key variables also retain their significance and expected signs. Credit ratings ($\beta \approx -0.124$, $p < 0.05$) and macroeconomic fundamentals ($\beta \approx -0.326$, $p < 0.05$) continue to exert a stabilizing influence on risk premia, while capital account openness (KAOPEN) remains a significant positive predictor ($\beta \approx 0.791$, $p < 0.05$), consistent with the idea that financial openness amplifies market reactions. Managed exchange rate regimes are associated with significantly larger risk premium increases ($\beta \approx 0.692$, $p < 0.05$), reinforcing earlier findings about the role of currency arrangements.

The regional dummy variables themselves are statistically insignificant, suggesting that the observed effects of transparency are not being driven by region-specific factors. Model fit remains strong (Adjusted $R^2 \approx 0.621$), supporting the conclusion that the core results are geographically robust.

5.2.2. Robustness Check 2: Controlling for Year Effects

The second robustness check incorporates year fixed effects to account for potential time-specific influences, particularly those tied to the two crisis periods under analysis (2011 and 2015). By including a dummy variable for 2015, the model tests whether the impact of fiscal transparency on risk premium changes varies meaningfully across different crisis episodes.

The results remain consistent with the baseline findings. The coefficient on fiscal transparency (OBI) is positive and highly significant ($\beta \approx 0.049$, $p < 0.001$), indicating that transparent countries continue to experience sharper risk premium adjustments during crises, even after accounting for temporal effects. This reinforces the view that transparency accelerates and amplifies market reactions in times of stress.

Other key variables also retain their expected signs and statistical significance. Credit ratings ($\beta \approx$ -0.122, $p < 0.05$) and macroeconomic conditions ($\beta \approx -0.332$, $p < 0.01$) continue to reduce the magnitude of risk premium increases. Capital account openness ($\beta \approx 0.741$, $p < 0.05$) and managed exchange rate regimes ($\beta \approx$ 0.685, $p < 0.05$) both amplify market responses, as previously observed. In particular, the year dummy for 2015 is statistically insignificant ($\beta \approx -0.139$, $p = 0.530$), suggesting that average risk premium changes do not differ substantially between the 2011 and 2015 crisis periods once country-specific controls are included. This implies that the core mechanisms linking transparency and risk pricing are stable across different crisis episodes. The model demonstrates strong explanatory power, with an adjusted R^2 of approximately 0.64, further supporting the robustness of the main results across time.

5.2.3. Robustness Check 3: Testing for Non-Linearity in the Transparency Effect

The third robustness check examines whether the effect of fiscal transparency on sovereign risk premium changes is non-linear by including a squared term for the Open Budget Index (OBI). Specifically, the model adds both a centered linear term (OBI_c) and its squared value $\mathtt{OBI\_c}^2$ to detect diminishing or accelerating marginal effects of transparency.

The results show that the linear term remains highly significant and positive ($\beta \approx 0.060$, $p < 0.001$), reaffirming the core finding that higher transparency is associated with larger increases in sovereign risk premia during crisis periods. The coefficient on the squared term is also positive, though not statistically significant at conventional levels ($\beta \approx 0.00052$, $p = 0.115$). This suggests a possible but not robust convex relationship, where the marginal impact of transparency might grow at higher levels of transparency.

Other explanatory variables behave as expected with credit ratings ($\beta \approx -0.142$, $p < 0.01$) and macroeconomic fundamentals ($\beta \approx -0.379$, $p < 0.01$) continuing to reduce risk premium changes, while capital account openness ($\beta \approx 0.807$, $p < 0.05$) and managed exchange rate regimes ($\beta \approx 0.731$, $p < 0.01$) amplify them.

With an adjusted R^2 of 0.677, this model fits the data well and further validates the robustness of the core findings. Although the non-linear effect of transparency is not conclusive, the results suggest that any potential curvature in the relationship is likely to be mild, and the dominant pattern remains a strong positive association between transparency and the intensity of market reactions during crises.

5.2.4. Robustness Check 4: Testing Whether Transparency Affects the Timing of Risk Premium Peaks

The fourth robustness check investigates whether fiscal transparency influences not only the magnitude of risk premium changes but also the timing of market reactions during crisis episodes. Specifically, the dependent variable here is the number of months between the start of the crisis and the peak in a country's sovereign risk premium (RP_peak_delay) within 12 months window after crisis, capturing how quickly markets respond to perceived fiscal vulnerabilities.

The results suggest that transparency is associated with longer delays in market repricing. The coefficient on OBI is positive and statistically significant ($\beta \approx 0.067$, $p \approx 0.018$), indicating that more transparent countries may experience a slightly slower build-up in risk premia following a crisis trigger. One possible interpretation is that transparency fosters greater market confidence or patience, allowing investors more time to process fiscal signals before fully adjusting prices.

Credit ratings continue to play a significant role ($\beta \approx -0.381$, $p < 0.05$), with better-rated countries experiencing faster risk premium adjustments, consistent with the idea that creditworthiness helps anchor expectations during stress. Other control variables, including macroeconomic fundamentals, exchange rate regime, and capital account openness, are not statistically significant in this model.

Although the adjusted R^2 is moderate (≈ 0.295), the model provides evidence that fiscal transparency may influence not just how strongly markets react, but also when they react. In contrast to the main findings where transparency appears to front-load market reactions, this result suggests a more nuanced mechanism that transparent countries may delay peak repricing, not by hiding risks, but by maintaining investor confidence for longer during uncertain periods.

5.2.5. Robustness Check 5: Using Crisis-Year OBI Scores to Test Market Perceptions

The fifth robustness check explores whether sovereign bond markets rely on the most recently published fiscal transparency scores (OBI) or instead form their own independent perceptions of transparency. To test this, the regression is re-estimated using crisis-year OBI scores for all countries under the assumption that market perceptions may reflect an aggregate or persistent understanding of transparency, rather than real-time changes.

The results continue to support the main findings. The coefficient on fiscal transparency remains positive and statistically significant ($\beta \approx 0.032$, $p < 0.01$), suggesting that even when lagged transparency scores are used, more transparent countries experience stronger increases in risk premia during crisis periods. Combined with the main model (which used the 2010 and 2012 OBI scores that were available at the time), this suggests that investors do respond to the transparency signals provided by OBI publications. The significance of the crisis-year OBI further supports the idea that OBI scores capture real, persistent features of fiscal transparency that markets incorporate into sovereign risk pricing.

In this specification, the managed exchange rate dummy retains significance ($\beta \approx 0.653$, $p < 0.1$), reaffirming the finding that less flexible regimes tend to experience larger market repricing. However, other controls such as credit ratings, macro fundamentals, and capital account openness are statistically insignificant in this model, which may reflect the narrower sample scope or the noise introduced by using non-crisis-year OBI data.

Despite these variations, the model remains statistically meaningful, with an adjusted R^2 of approximately 0.28 and an F-statistic significant at the 5% level. These results suggest that investors take OBI scores into account when assessing fiscal risk, maintaining the idea that these published measures of transparency are both useful and trusted by markets.

5.2.6. Robustness Check 6: Transparency and Risk Premium Levels During Stable Periods

To determine whether the positive effect of fiscal transparency is unique to crisis episodes or also present during more stable periods, the sixth robustness check examines sovereign risk premium levels (rather than changes) in non-crisis periods. The dependent variable, RP_level, captures the 6 months average of sovereign risk premia during identified periods of stability across the sample.

The results differ notably from those observed during crisis periods. The coefficient on fiscal transparency (OBI) is positive but statistically insignificant ($\beta \approx 0.019$, $p = 0.163$), suggesting that transparency does not meaningfully influence borrowing costs during stable market conditions. This contrasts with the crisis-period findings, where transparency was associated with larger but earlier market reactions.

Credit ratings remain an important factor, with a negative and statistically significant coefficient ($\beta \approx -0.308$, $p < 0.01$), indicating that countries with higher creditworthiness consistently maintain lower average risk premia in non-crisis periods. Other control variables, including macroeconomic fundamentals, exchange rate regime, and capital account openness do not exhibit significant effects in this specification.

The adjusted R^2 of approximately 0.61 indicates a reasonably good model fit. Overall, the results support the interpretation that fiscal transparency plays a more active role in shaping market reactions under stress, while during stable times, investors appear to focus more on baseline fundamentals like credit quality.

5.2.7. Robustness Check 7: Interaction between Transparency groups and Exchange Rate Regimes

The final robustness check explores whether the effect of fiscal transparency on sovereign risk premia varies systematically depending on the country's exchange rate regime. To test this, an interaction term is included between a dummy for low-transparency countries (OBI_group) and the managed exchange rate category (FX_group). This robustness check model assesses whether countries with both low transparency and less flexible currency regimes experience a combined effect that differs meaningfully from the sum of their individual contributions.

The core result remains stable with the coefficient on the continuous OBI variable is again positive and highly significant ($\beta \approx 0.054$, $p < 0.001$), reaffirming the central finding that higher transparency is associated with larger changes in sovereign risk premia during crisis periods.

The interaction term between low transparency and managed exchange rates is positive but not statistically significant ($\beta \approx 0.541$, $p = 0.251$), suggesting that the joint presence of low transparency and a managed exchange rate regime does not lead to an effect on risk premia that is significantly different from what would be expected based on the individual effects of each factor. Similarly, the main effect for the low-transparency dummy (OBI_low) is also statistically insignificant ($\beta \approx -0.183$, $p = 0.656$), indicating that, on average, low-transparency countries do not display systematically different sovereign risk premium behavior compared to their higher-transparency peers, once other factors are accounted for.

Credit ratings ($\beta \approx -0.131$, $p < 0.05$) and macroeconomic conditions ($\beta \approx -0.348$, $p < 0.01$) continue to play significant stabilizing roles, while KAOPEN and FXmanaged are positive but remain statistically insignificant in this extended model.

The model explains a large share of the variation in how countries' risk premia respond to crises (adjusted $R^2 = 0.641$), showing that transparency, along with economic and institutional factors, plays an important role. While the interaction effect is not significant, the results still support the idea that the link between transparency and market reactions holds across different types of policy environments.

Altogether, the seven robustness checks confirm the stability and reliability of the core empirical findings. Across alternative model specifications, including controls for time and region, non-linear modeling, delayed risk repricing, stable period dynamics, and institutional interaction effects, the positive relationship between fiscal transparency and sovereign risk premium changes during crises remains consistently strong and statistically significant. These results suggest that markets respond more sharply but not necessarily more severely to transparent fiscal frameworks, likely because transparency enables faster recognition of underlying vulnerabilities. While the magnitude of this relationship may vary slightly depending on context, the overall evidence strengthen the conclusion that transparency plays a fundamental role in shaping investor behavior during episodes of financial stress. Moreover, the lack of significant distortion from regional, temporal, or structural factors supports the generalizability of the findings across emerging market scenarios.

6. Conclusion

This thesis set out to explore whether fiscal transparency reduces sovereign risk premia during financial crises, focusing on a panel of emerging market economies across multiple regions. Focusing on the Open Budget Index (OBI) as the main measure of transparency, the analysis combined institutional, macroeconomic and structural variables to assess how fiscal transparency influence market reactions under stress.

The findings revises some conventional assumptions in the literature. While prior studies generally argue that fiscal transparency lowers borrowing costs by enhancing credibility and reducing uncertainty, this thesis finds that during crisis episodes, higher transparency is actually associated with larger increases in risk premia in emerging economies. Transparent countries are not shielded from market turbulence, instead, they face sharper repricing, possibly because they expose fiscal weaknesses more quickly and allow investors to react faster. This result is robust across multiple model specifications and remains consistent after accounting for capital account openness, exchange rate regimes, and potential nonlinearities.

Several factors help contextualize this result. First, transparency appears to enable faster market recognition of fiscal weaknesses, thereby front-loading risk repricing and potentially accelerating adjustments that would otherwise occur more gradually. Second, this effect is magnified in countries with more open capital accounts and managed exchange rate regimes, where cross-border flows and exchange rate commitments heighten investor sensitivity to perceived inconsistencies between policy signals and fiscal fundamentals. Third, creditworthiness and strong macroeconomic conditions continue to act as buffers, dampening risk premium increases even in highly transparent settings.

However, transparency does not exhibit the same effect during stable periods. In non-crisis windows, transparency has no statistically significant association with risk premia levels, indicating that its impact is particularly dominant when investor uncertainty is elevated. This suggests that transparency serves not as a permanent discount factor but as a mechanism for accelerating information absorption and repricing during shocks.

The thesis also finds that the relationship between transparency and risk premia is context-dependent that while transparency has limited influence on borrowing costs during stable periods, it plays a more decisive signaling role during episodes of financial uncertainty. This distinction emphasize the importance of considering timing and market conditions when evaluating the effects of fiscal transparency. Moreover, while transparency may not avert capital flight outright, it facilitates quicker adjustment, potentially allowing countries to recover credibility sooner in the aftermath of a shock.

This study advances the literature on fiscal transparency and market discipline in several ways. While earlier research has largely emphasized the long-term benefits of transparency for creditworthiness and borrowing costs, this thesis focuses on short-term dynamics under financial stress, a relatively underexplored area. By comparing stable times with crisis periods in emerging economies, and by looking at how different country conditions affect the outcome, this analysis shows that the impact of transparency is shaped by the broader institutional and economic environment. It adds to existing research by showing that transparency does not always boost investor confidence in the same way.

The findings also contribute to broader debates about the role of information in global capital markets. Specifically, the evidence supports the view that transparency is a double-edged sword as it can enhance credibility and investor trust, but it also exposes fiscal weaknesses more quickly and clearly, causing markets to react more decisively during crises. In this sense, transparency does not eliminate volatility; rather, it shifts its timing and potentially improves the efficiency of adjustment.

Despite its contributions, it is important to acknowledge that the study has several limitations. First, the dataset is limited in size, covering a relatively small panel of emerging market countries and focusing only on two major crisis episodes. This sample constraint limits the generalizability of the findings and may underpower some statistical tests, especially those involving interaction terms or institutional subgroups. Second, the use of the Open Budget Index (OBI) as the sole measure of fiscal transparency, while widely accepted, it primarily focuses on the availability and quality of budget documents. Future research could expand the analysis by incorporating alternative or complementary transparency indicators, such as the IMF's Fiscal Transparency Code. Third, the empirical models focus on average country-level effects and do not account for within-country variations over time. A promising extension would be to explore panel time-series methods or event studies that better exploit within-country changes in transparency, potentially uncovering causal mechanisms and dynamic effects. Finally, the models assume homogeneity in how markets interpret and respond to transparency. However, investor reactions likely vary depending on institutional quality, media freedom, or global risk sentiment. Future research should explore heterogeneity across investor bases and market conditions, possibly by combining quantitative regressions with qualitative case studies.

Future research could expand the analysis in several directions. First, longitudinal studies could explore how transparency reforms implemented before and after crises influence long-term borrowing costs and recovery trajectories. Second, more granular measures of transparency such as real-time fiscal communication strategies could help uncover which aspects of transparency matter most during crises. Finally, extensions to other institutional domains (e.g., judicial independence, media freedom, or central bank transparency) could further illuminate the broader ecosystem in which fiscal information is interpreted and acted upon by investors.

7. Policy Implications

The findings of this thesis offer several important policy implications for emerging market governments and investors concerned with sovereign risk and fiscal management. First, while fiscal transparency is widely assumed to lower sovereign borrowing costs, this study shows that the relationship is more complex during crisis periods. Although fiscal transparency is often expected to lower borrowing costs, this study finds the opposite during crisis periods. This suggests that transparency can amplify market reactions during distress, potentially because open fiscal systems expose vulnerabilities more quickly or because markets hold transparent countries to higher standards. Policymakers in emerging markets should therefore recognize that while transparency builds long-term credibility, it also requires accompanying fiscal and institutional resilience to avoid becoming a source of short-term vulnerability.

Second, the results indicate that transparency does not operate in isolation but interacts with broader institutional factors such as credit ratings, exchange rate regime, and capital account openness. Countries with strong fundamentals and open fiscal systems can better absorb transparency shocks, while those with weak governance or shallow markets may face amplified volatility when they open their books. This points to the need for a holistic policy approach in which improving fiscal transparency should go hand-in-hand with strengthening institutional quality, and managing external vulnerabilities.

Third, the analysis shows that the benefits of transparency are not only about avoiding crises but also about managing market expectations during turbulent times. Governments should invest not just in publishing more fiscal data but also in improving the quality, timeliness, and credibility of that information. Effective communication strategies, combined with transparent fiscal structure, can help shape investor perceptions and mitigate sudden stops or capital flights during external shocks.

Finally, for international financial institutions (IFIs) and credit rating agencies, these findings present the importance of context-specific approaches to fiscal transparency. While greater transparency is generally encouraged, blanket recommendations may overlook the fact that, in the absence of institutional capacity and proper macroeconomic management, transparency reforms can have unintended short-term costs. In fact, as Alt and Lassen (2006) observe, governments under fiscal or political stress often reduce transparency, a choice that may be rational not only politically but economically, as openness can expose vulnerabilities and prompt sharper market reactions. At the same time, transparency enhancing reforms can serve as credible signals of a government's commitment to effective fiscal policy and long-term resilience. In this sense, fiscal transparency resembles fiscal rules that both can build credibility but can also backfire if not supported by coherent policy frameworks. This thesis thus suggests that transparency must be combined with a broader foundation of institutional strength and crisis preparedness to function as both a long-term credibility enhancer and a short-term stabilizer in the face of global volatility.

Appendices

Appendix A. Country list

Latin America	Eastern Europe	Southeast Asia
Bolivia	Albania	Cambodia
Brazil	Bulgaria	Indonesia
Colombia	Croatia	Malaysia
Costa Rica	North Macedonia	Philippines
Dominican Republic	Poland	Thailand
El Salvador	Romania	Vietnam
Guatemala	Slovenia	
Honduras	Ukraine	
Mexico		
Nicaragua		
Peru		
Chile		

Appendix B. Risk Premium Estimation Method by Country

Country	Bond 1	Bond 2	Bond 3	UIP
Latin America				
Bolivia	2013-23 (5.95%)			2007-13
Brazil	2006-37 (7.125%)			
Colombia	2006-37 (7.375%)			
Costa Rica	2004-14 (6.548%)	2013-25 (4.375%)		
Dominican Republic	2005-11 (9.5%)	2003-13 (9.04%)	2013-24 (6.6%)	2012-13
El Salvador	2005-35 (7.65%)			
Guatemala	2003-2013 (9.25%)	2013-28 (4.875%)		
Honduras	2013-2020 (8.75%)	2017-27 (6.25%)		2007-13
Mexico	2004-34 (6.75%)			
Nicaragua				2007-23
Peru	2005-25 (7.35%)			
Chile	2003-13 (5.5%)	2011-21 (3.25%)	2014-25 (3.125%)	
Eastern Europe				
Albania	2010-25 (0%)			2007-11
Bulgaria	2002-15 (8.25%)	2014-24 (2.95%)*		
Croatia	2004-14 (5%)*	2009-19 (6.75%)	2013-24 (6%)	
North Macedonia	2005-15 (4.625%)*	2014-24 (4%)*	2020-26 (3.675%)*	
Poland	2005-15 (5%)	2014-24 (4%)		
Romania	2003-10 (5.75%)*	2010-15 (5%)*	2014-24 (4.875%)	
Slovenia	2007-18 (4%)*	2014-24 (5.25%)		
Ukraine	2007-12 (6.385%)	2011-16 (6.25%)	2015-27 (7.75%)	
Southeast Asia				
Cambodia				2007-23
Indonesia	2007-37 (6.625%)			
Malaysia	2001-11 (7.5%)			2011-23
Philippines	2007-32 (6.375%)			
Thailand	1993-13 (7.07%)			2013-23
Vietnam	2005-16 (6.875%)	2014-24 (4.8%)		

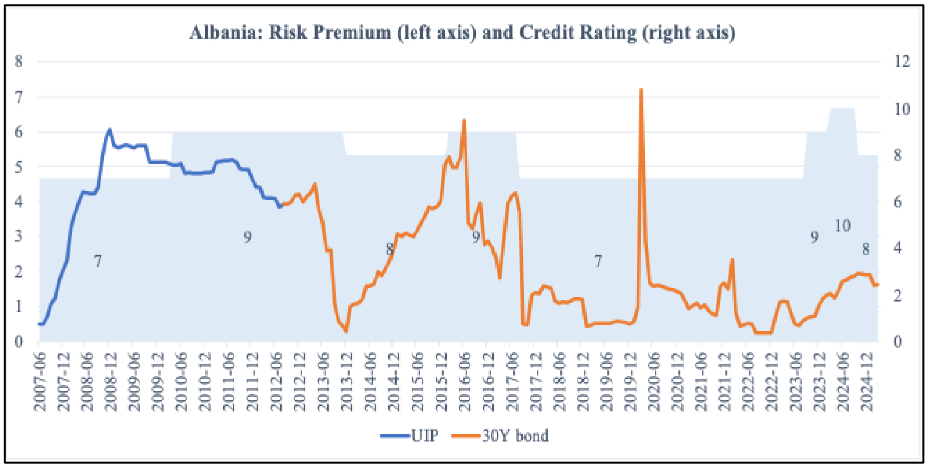
Note: An asterisk (*) denotes EUR-denominated bonds. Bonds without an asterisk are denominated in USD.

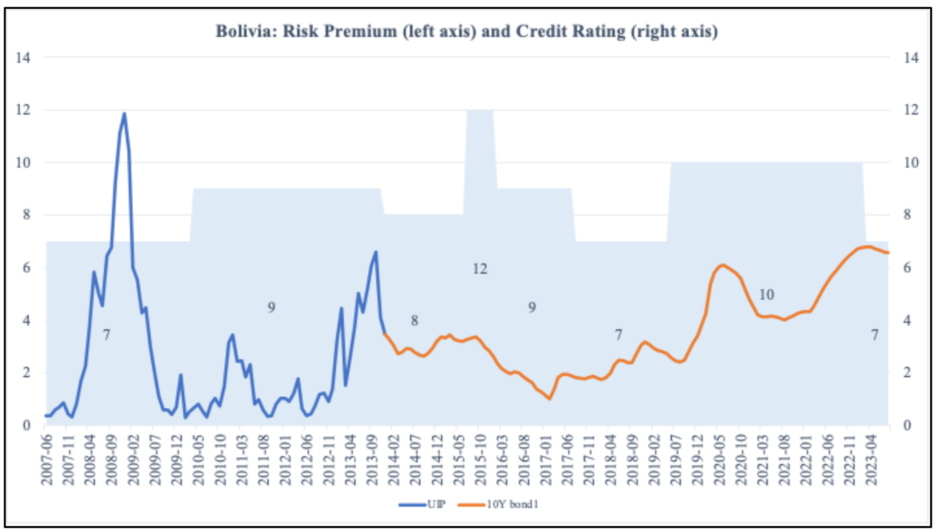
Appendix C. Numerical Conversion of Sovereign Credit Ratings

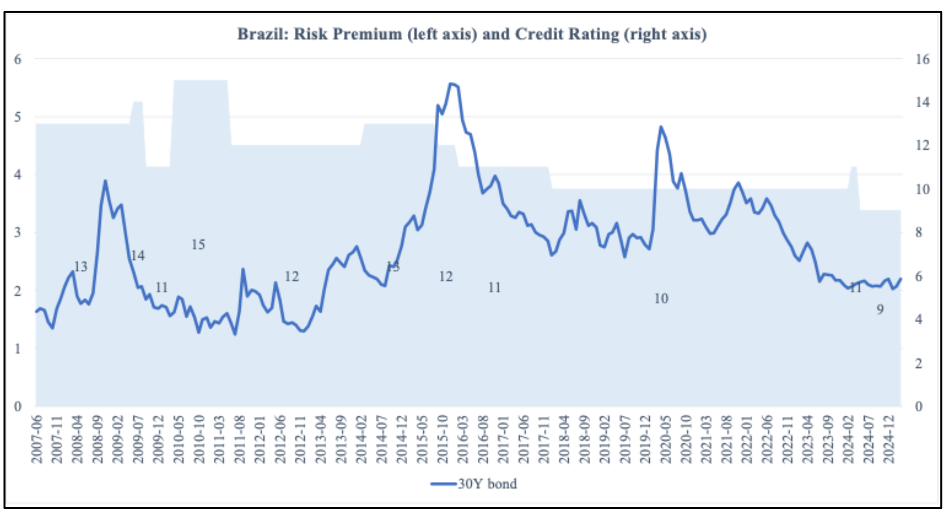
Fitch		Moody's		S&P	
Ratings	Numerical	Ratings	Numerical	Ratings	Numerical
AAA	23	Aaa	20	AAA	22
AA+	22	Aa1	19	AA+	21
AA	21	Aa2	28	AA	20
AA-	20	Aa3	17	AA-	19
A+	19	A1	16	A+	18
A	18	A2	15	A	17
A-	17	A3	14	A-	16
BBB+	16	Baa1	13	BBB+	15
BBB	15	Baa2	12	BBB	14
BBB-	14	Baa3	11	BBB-	13
BB+	13	Ba1	10	BB+	12
BB-	12	Ba2	9	BB	11
B+	11	Ba3	8	BB-	10
B	10	B1	7	B+	9
B-	9	B2	6	B	8
CCC+	8	B3	5	B-	7
CCC	7	Caa1	4	CCC+	6
CCC-	6	Caa2	3	CCC	5
CC	5	Caa3	2	CCC-	4
C	4	Ca	1	CC	3
DDD	3	C	0	C	2
DD	2	WR		SD	1
D	1			D	0
RD	0			NR	
WD	0				

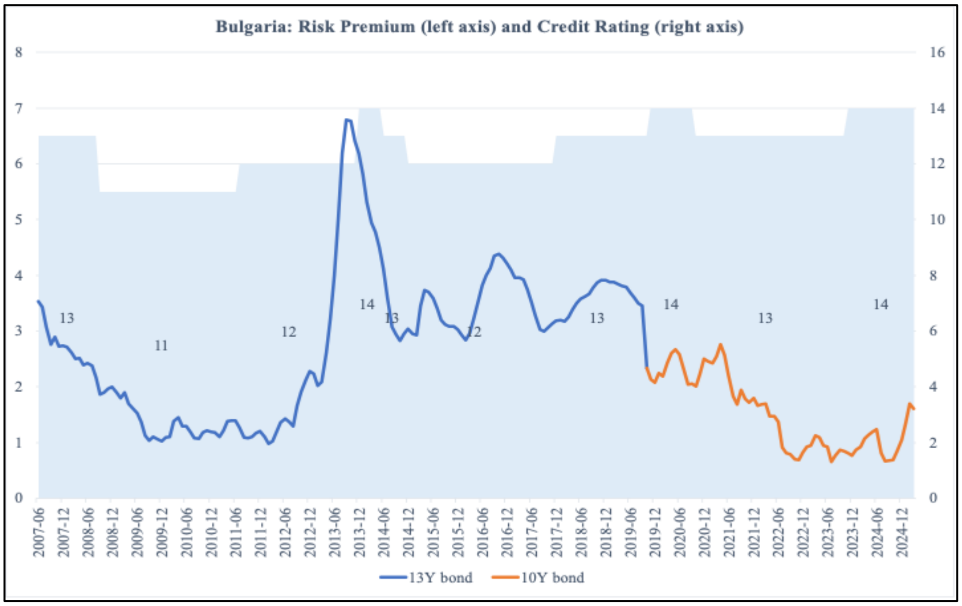
Note: *WD, WR and NR mean "withdrawn" (the country was not rated). **Source:** Escolano and Arbatli (2012).

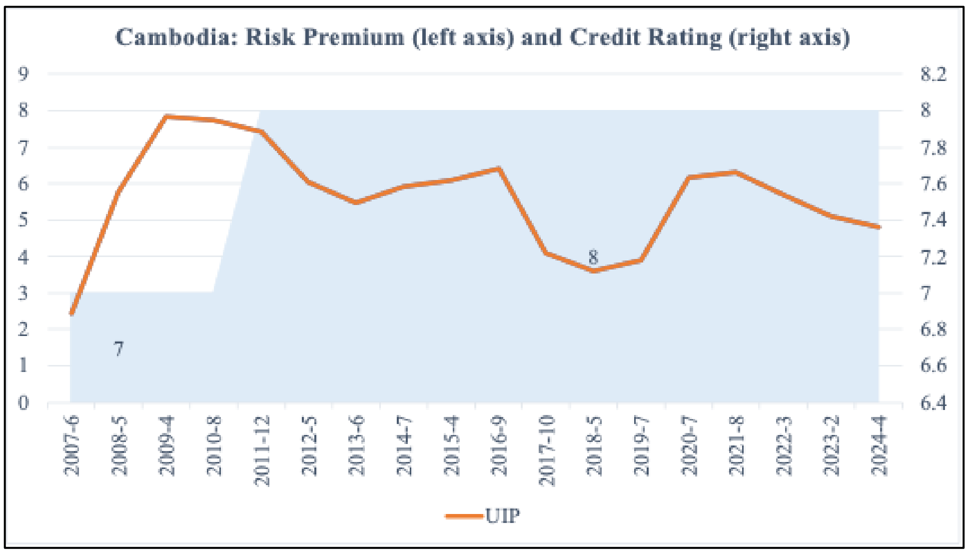
Appendix D. Country Risk Premia and Credit Rating

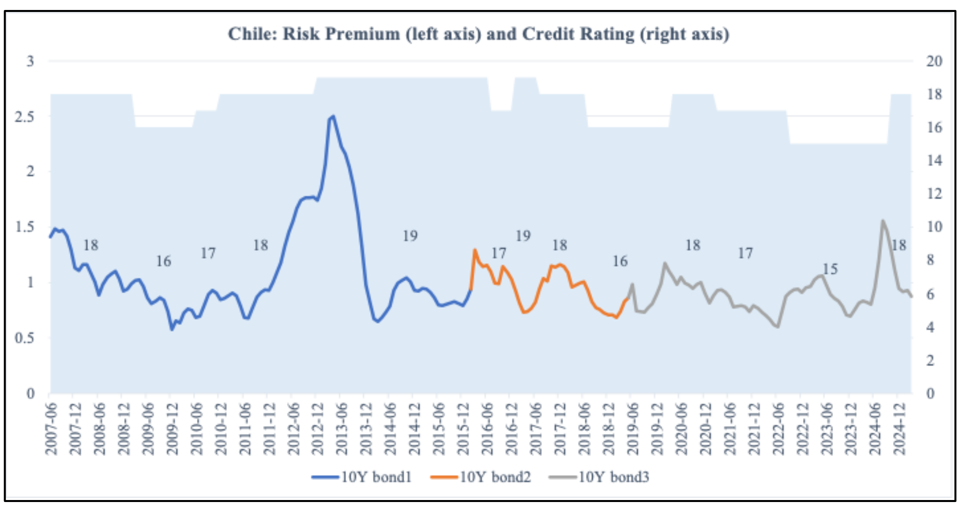


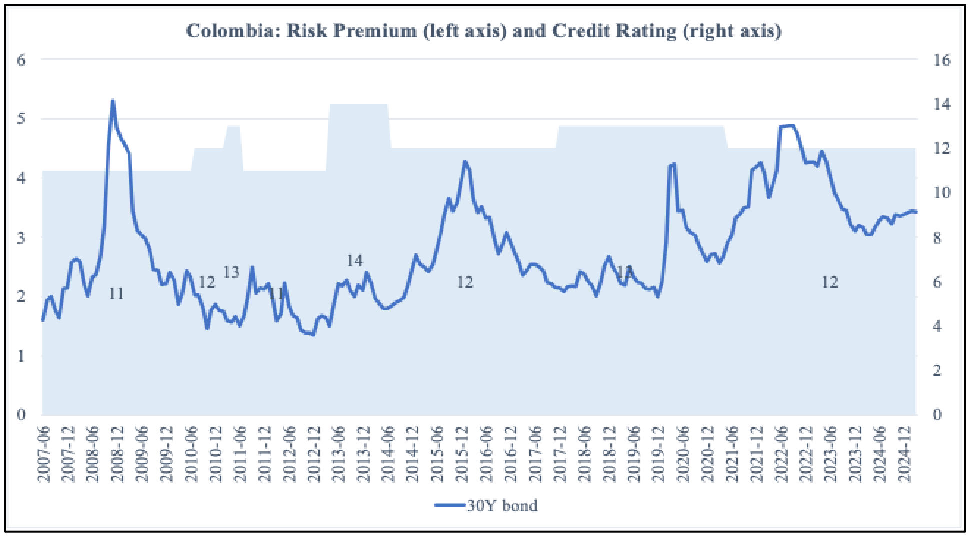


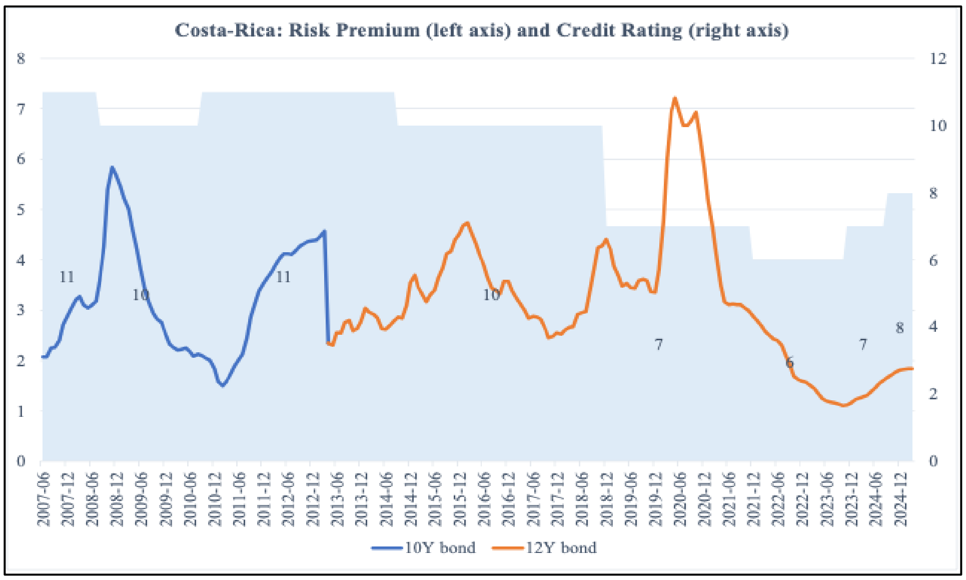


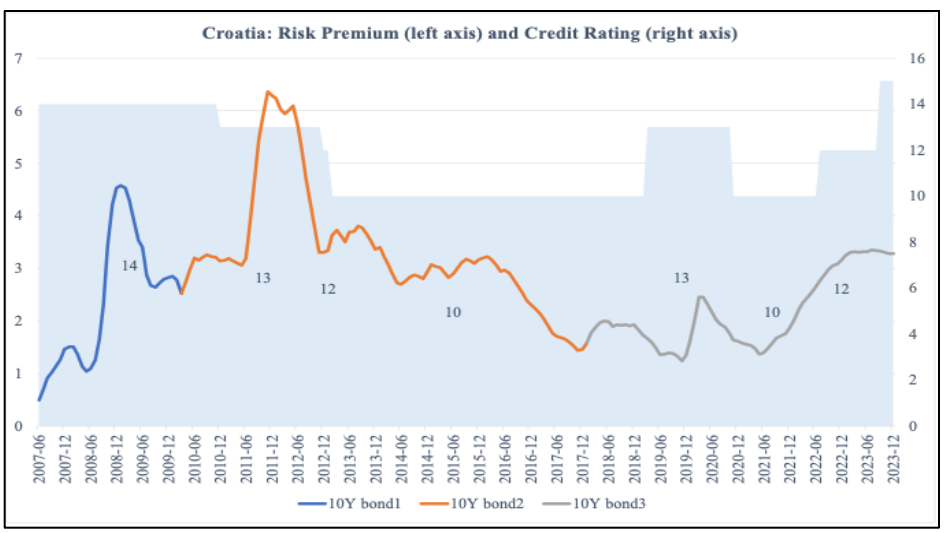

Bulgaria: Risk Premium (left axis) and Credit Rating (right axis)
13Y bond
10Y bond

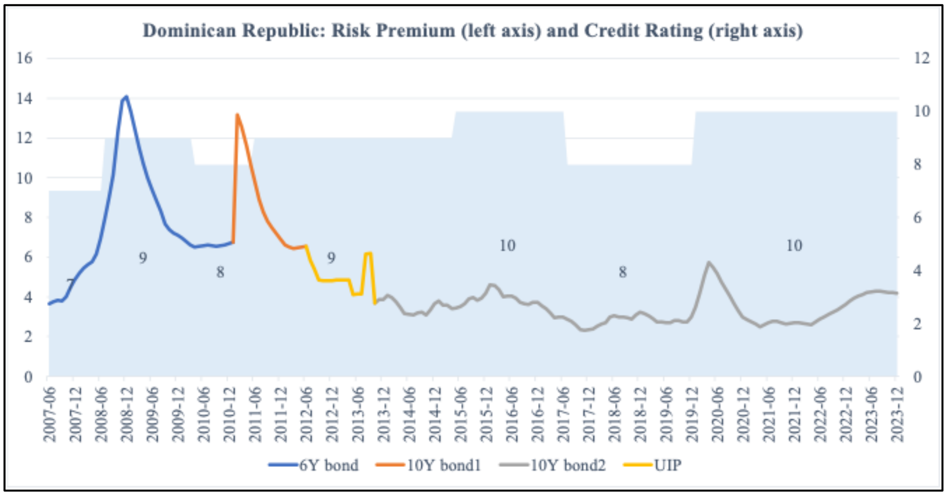

Cambodia: Risk Premium (left axis) and Credit Rating (right axis)
UIP

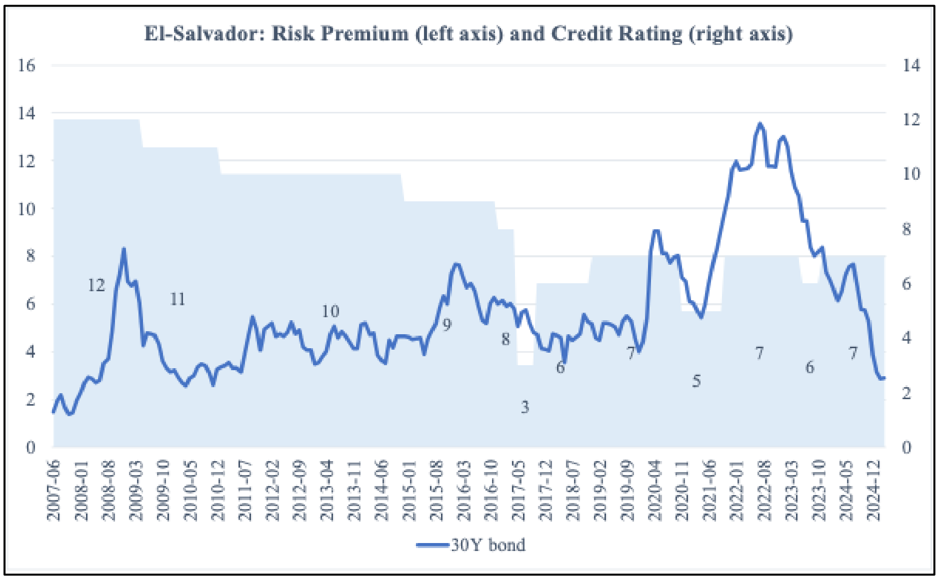

Chile: Risk Premium (left axis) and Credit Rating (right axis)
10Y bond1
10Y bond2
10Y bond3

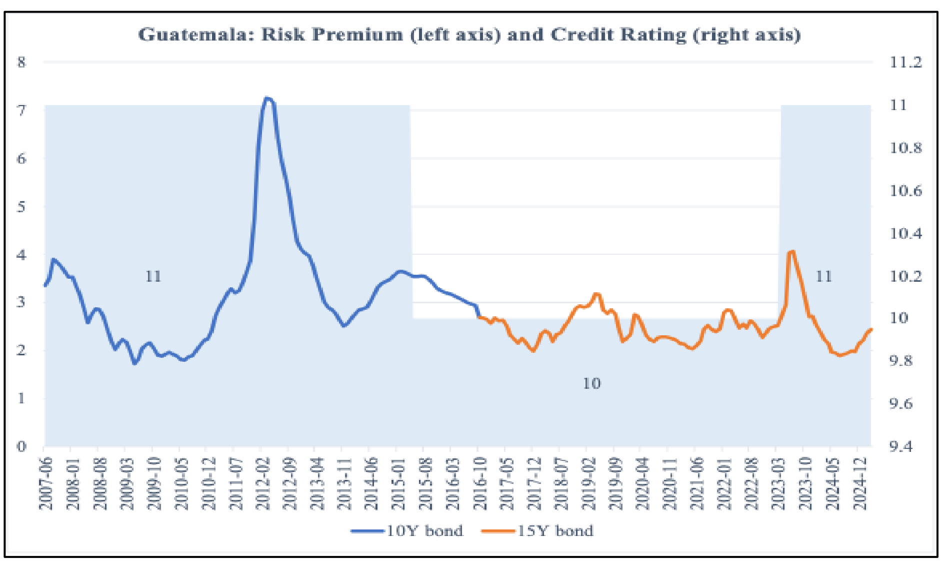

Colombia: Risk Premium (left axis) and Credit Rating (right axis)
30Y bond

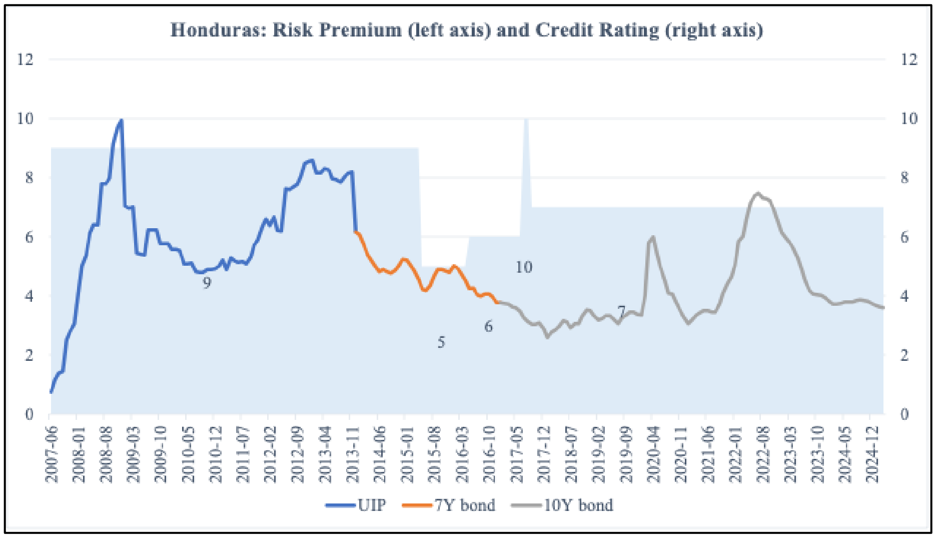

Costa-Rica: Risk Premium (left axis) and Credit Rating (right axis)
10Y bond
12Y bond

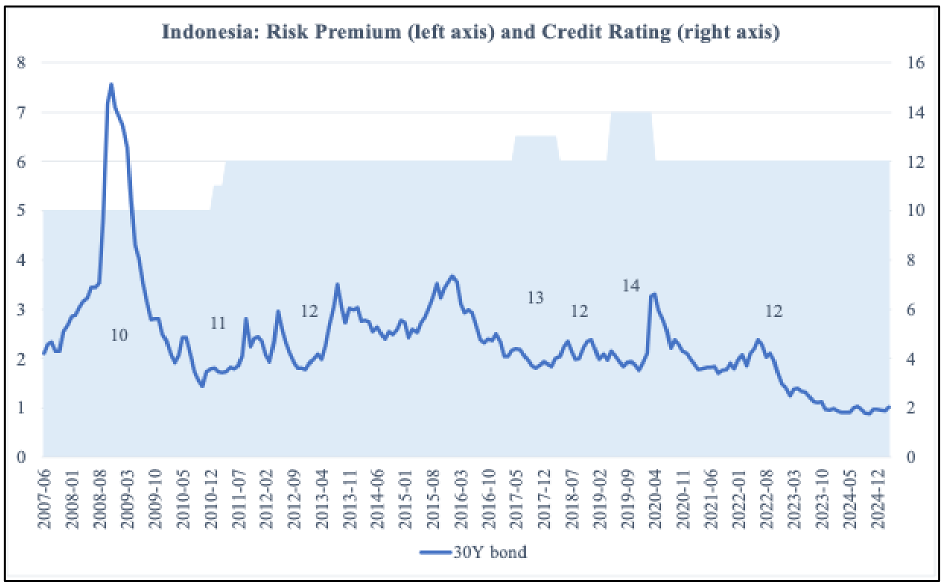

Croatia: Risk Premium (left axis) and Credit Rating (right axis)
10Y bond1
10Y bond2
10Y bond3

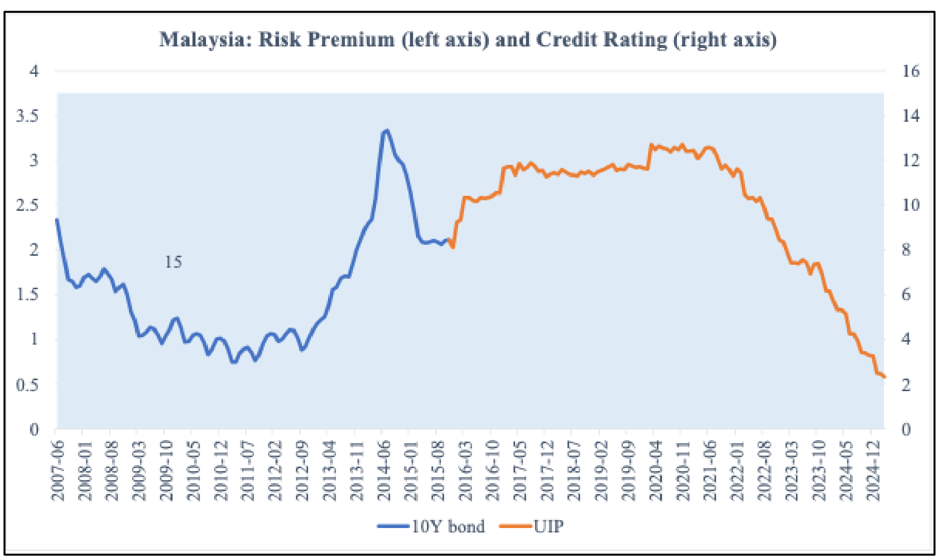

Dominican Republic: Risk Premium (left axis) and Credit Rating (right axis)
6Y bond
10Y bond1
10Y bond2
UIP

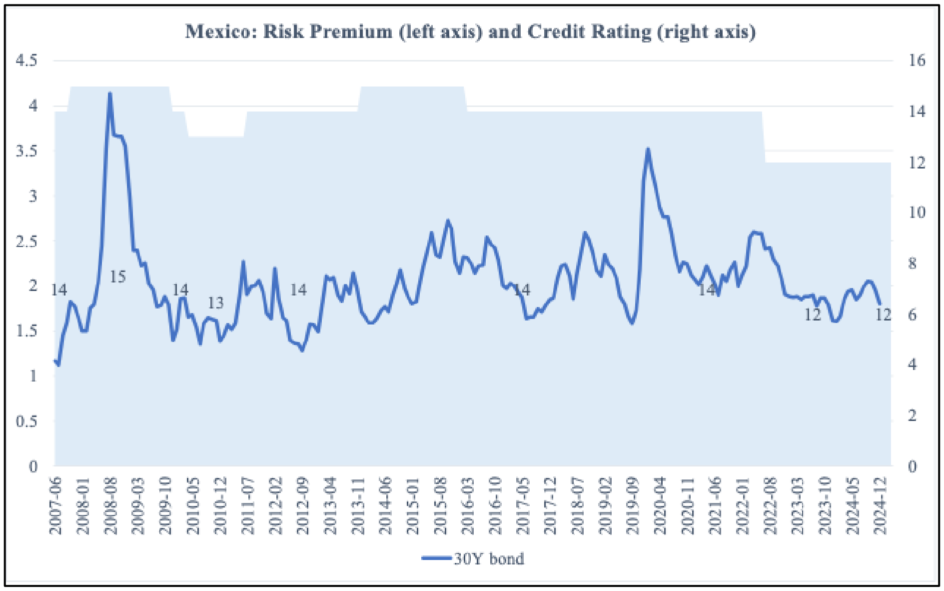

El-Salvador: Risk Premium (left axis) and Credit Rating (right axis)
30Y bond

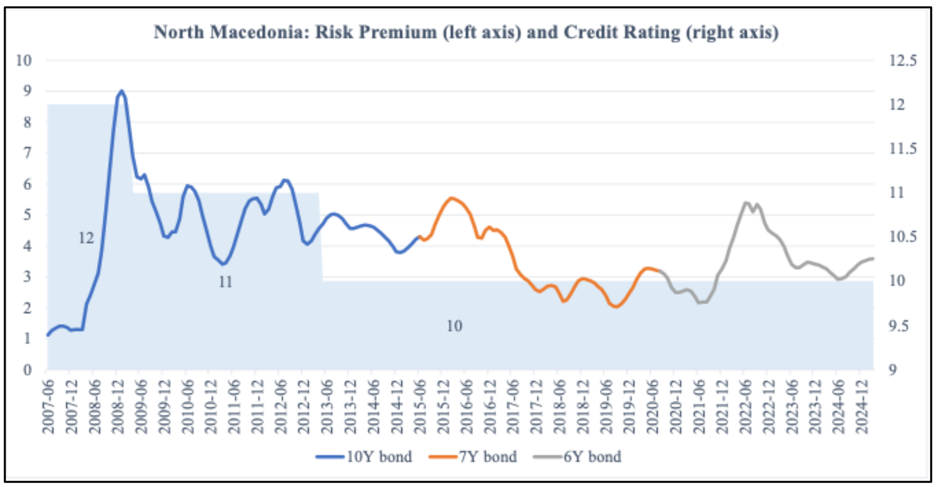

Guatemala: Risk Premium (left axis) and Credit Rating (right axis)
10Y bond
15Y bond

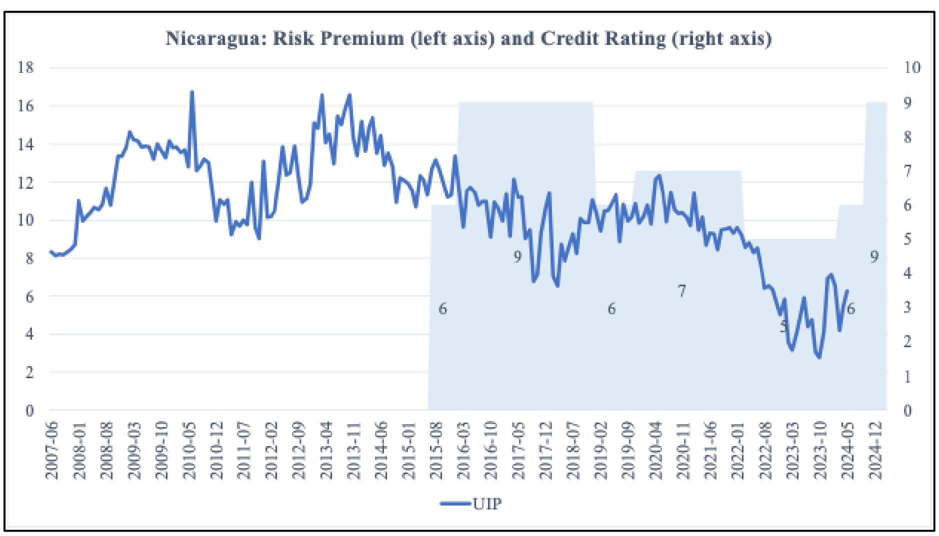

Honduras: Risk Premium (left axis) and Credit Rating (right axis)
9
5
6
10
7
UIP
7Y bond
10Y bond

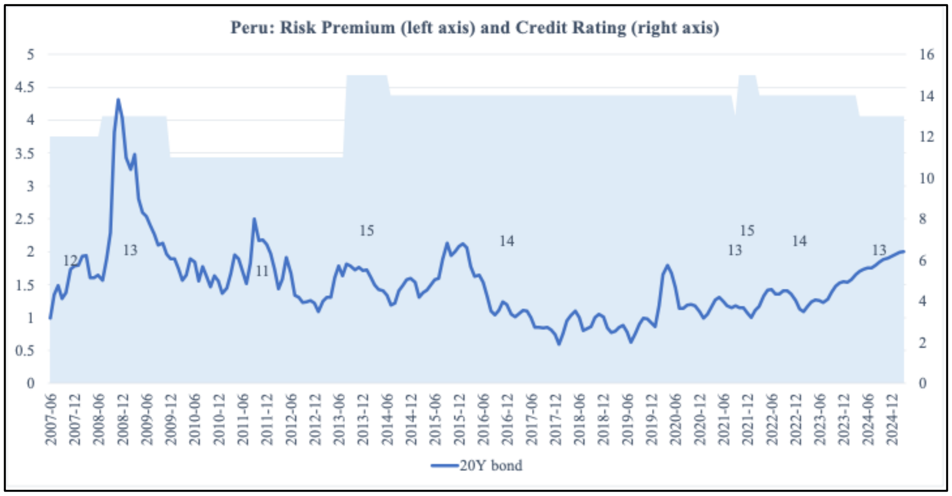

Indonesia: Risk Premium (left axis) and Credit Rating (right axis)
10
11
12
13
12
14
12
30Y bond

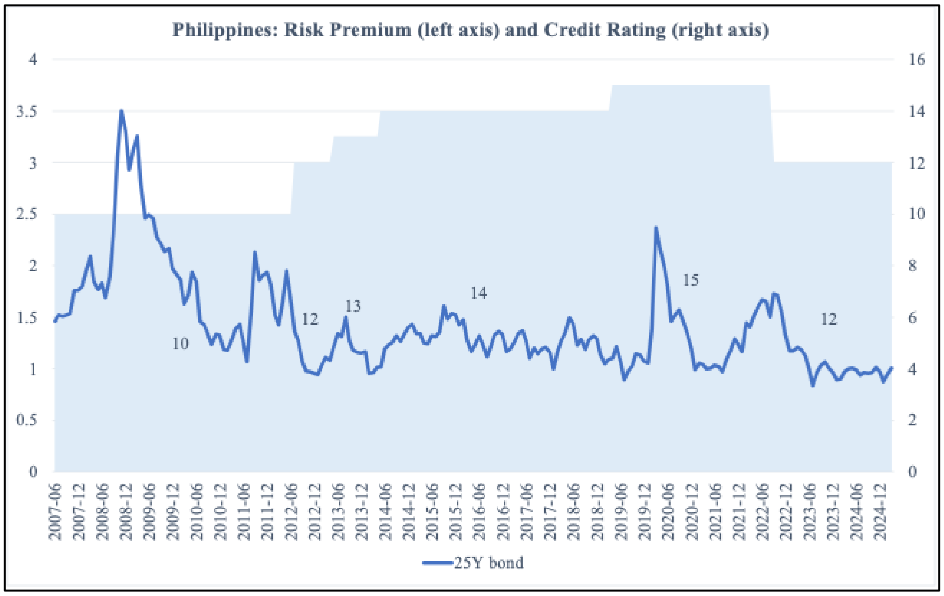

Malaysia: Risk Premium (left axis) and Credit Rating (right axis)
15
10Y bond
UIP

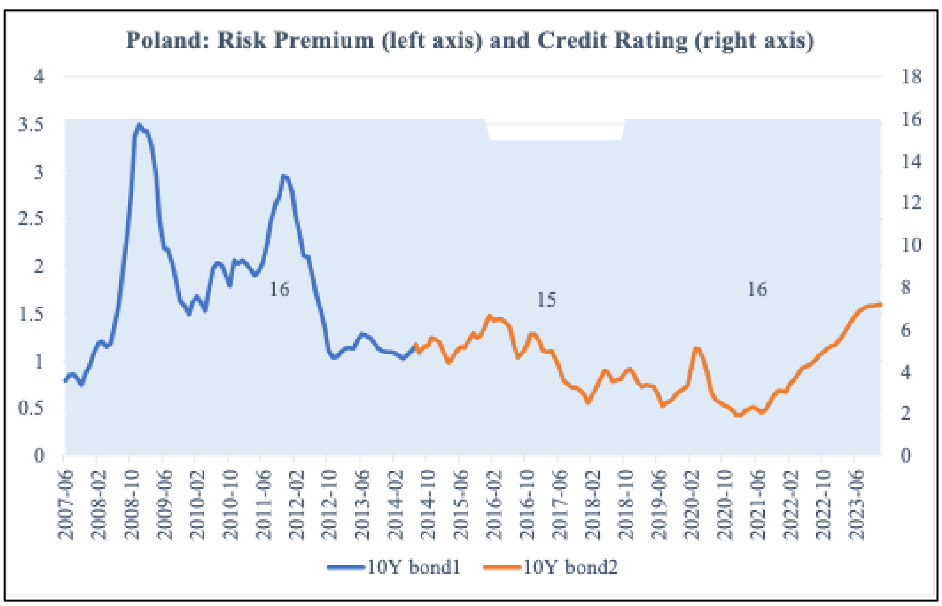

Mexico: Risk Premium (left axis) and Credit Rating (right axis)
30Y bond

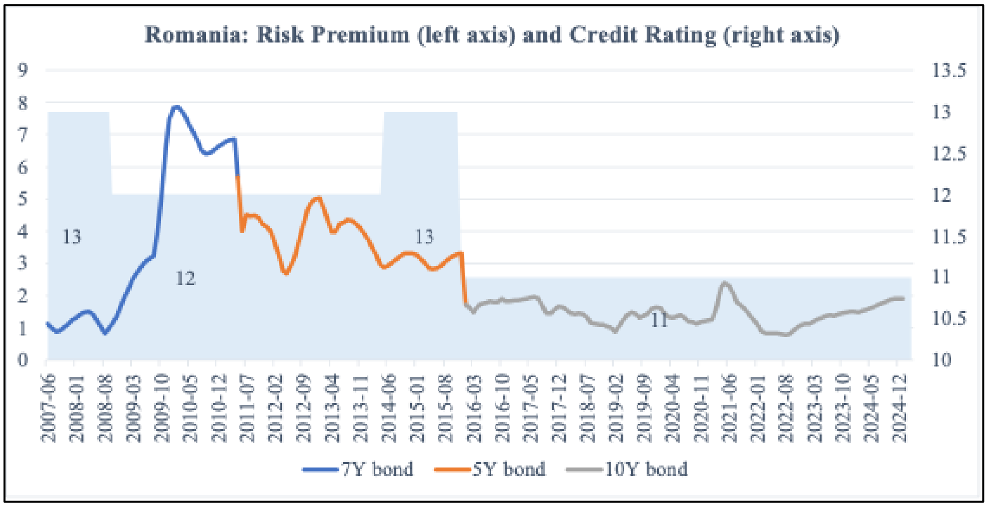

North Macedonia: Risk Premium (left axis) and Credit Rating (right axis)
10Y bond
7Y bond
6Y bond

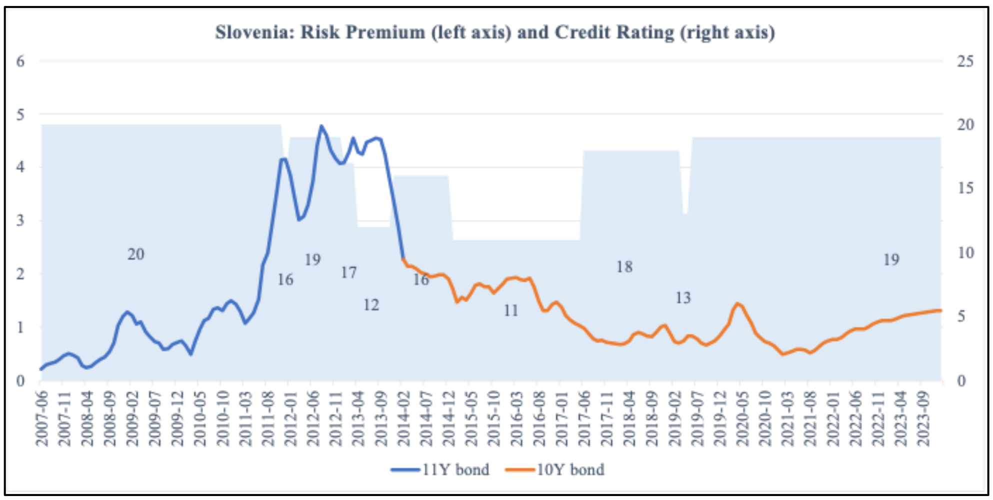

Nicaragua: Risk Premium (left axis) and Credit Rating (right axis)
UIP

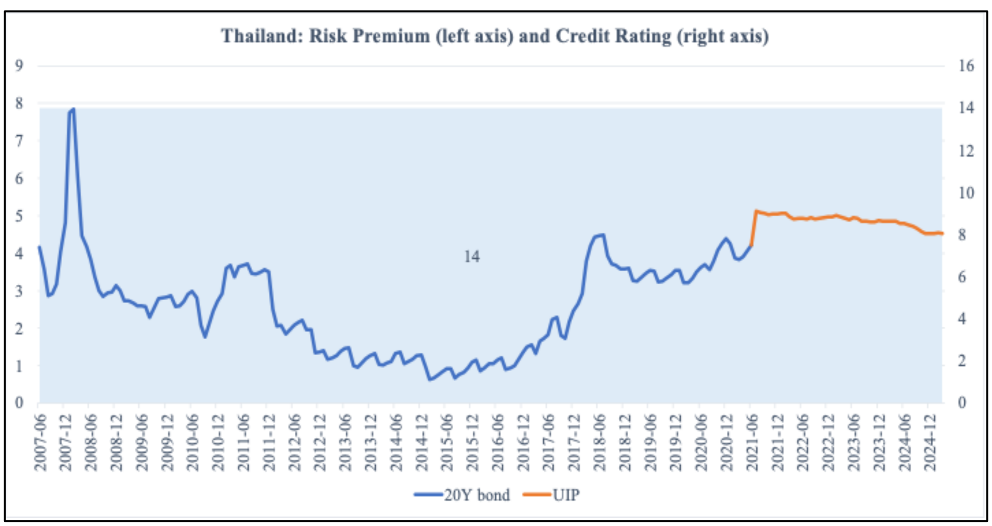

Peru: Risk Premium (left axis) and Credit Rating (right axis)
12
13
11
15
14
13
15
14
13
20Y bond

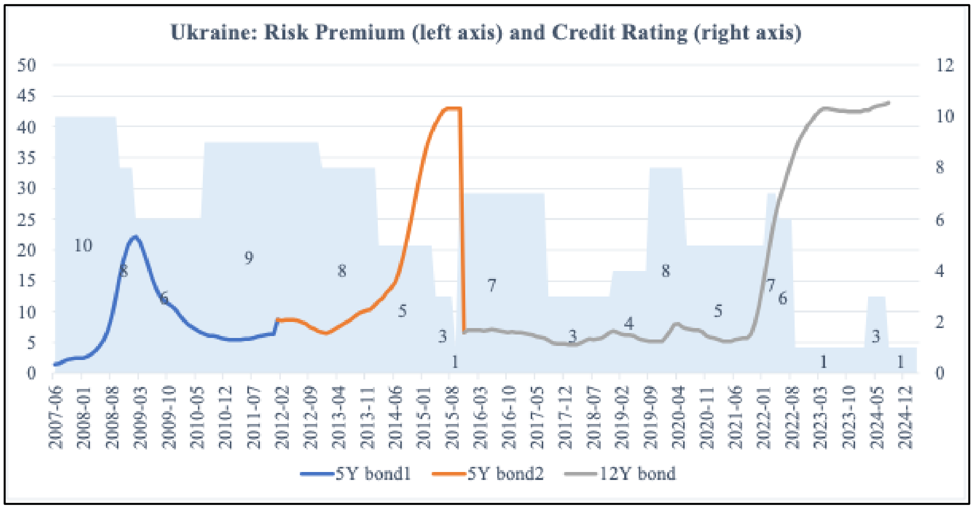

Philippines: Risk Premium (left axis) and Credit Rating (right axis)
10
12
13
14
15
12
25Y bond

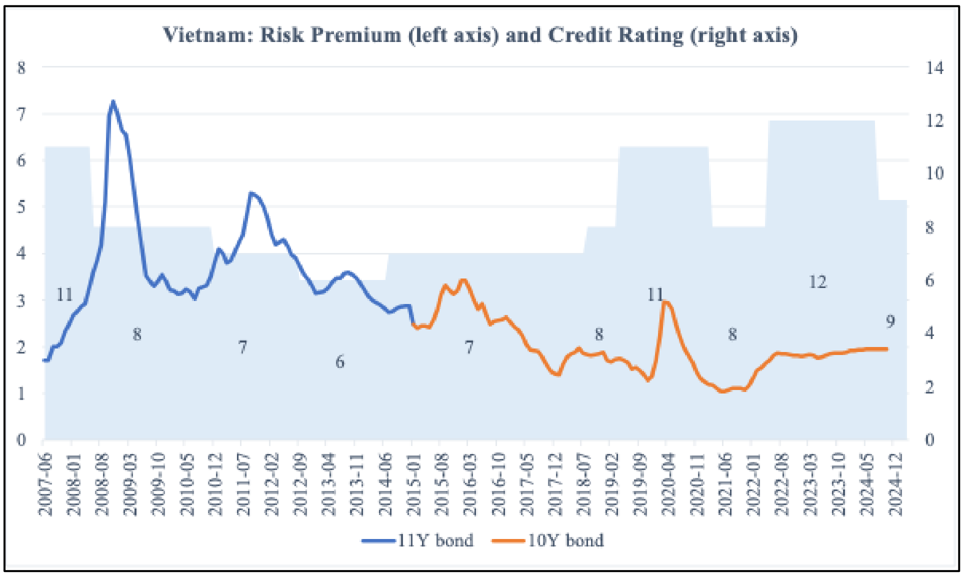

Poland: Risk Premium (left axis) and Credit Rating (right axis)
16
15
16
10Y bond1
10Y bond2


Romania: Risk Premium (left axis) and Credit Rating (right axis)
13
12
13
11
7Y bond
5Y bond
10Y bond


Slovenia: Risk Premium (left axis) and Credit Rating (right axis)
20
16
19
17
12
16
11
18
13
19
11Y bond
10Y bond


Thailand: Risk Premium (left axis) and Credit Rating (right axis)
14
20Y bond
UIP





Source: Own calculation.

Appendix E. PCA results

	PC1	PC2	PC3
Standard deviation	1.12	0.99	0.86
Proportion of Variance	0.42	0.32	0.25
Cumulative Proportion	0.42	0.74	1
GDP_growth	0.56	0.59	0.56
Inflation	0.69	0.01	-0.71
Current_account	-0.43	0.80	-0.40

Source: Own calculation.

Appendix F. AIC and BIC results

	AIC	BIC
Model 1	50.465	56.765
Model 2	47.866	55.415
Model 3	40.219	49.026

Source: Own calculation.

Appendix G.1. Variance Inflation Factors for Main Models

	(1)	(2)	(3)
OBI	1.95	1.95	2.01
CreditRating	2.31	2.33	2.49
MacroVar	1.66	1.66	1.67
KAOPEN		1.01	1.01
FXgroup			1.75

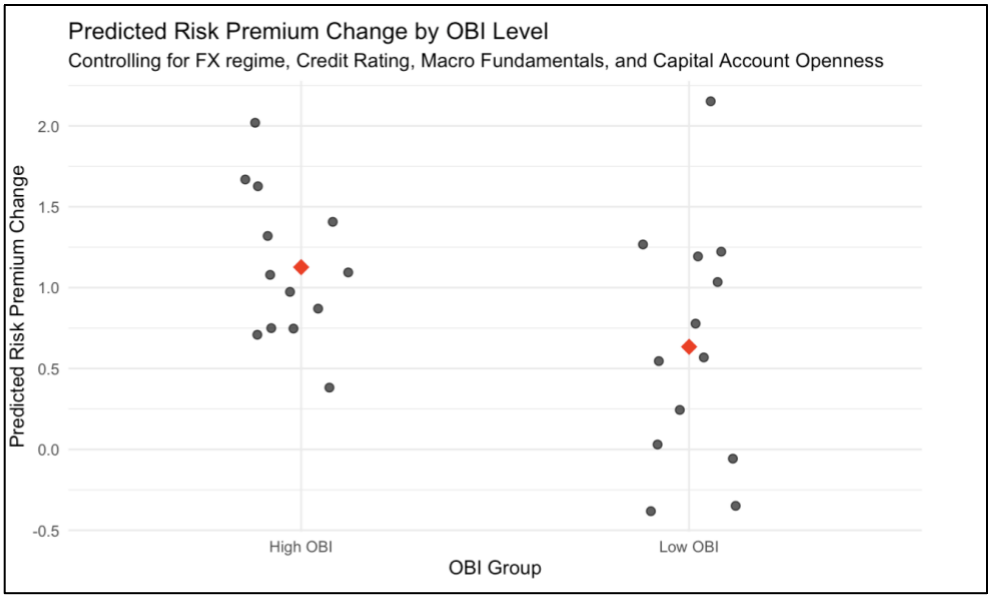
Source: Own calculation.

Appendix G.2. Variance Inflation Factors for Robustness Check Models

	(R1)	(R2)	(R3)	(R4)	(R5)	(R6)	(R7)
OBI	1.64	2.37	3.08	2.01	1.76	1.61	3.47
CreditRating	1.73	2.91	3.06	2.87	2.60	3.09	3.21
MacroVar	1.35	1.77	1.73	1.67	1.38	1.54	2.95
KAOPEN	1.09	1.01	1.03	1.01	1.04	3.10	1.22
FXgroup	1.35	1.82	1.76	1.76	1.77	1.49	1.74
Factor(year)		1.21					
Factor(region)	1.17						
OBI^2			1.65				
OBIgroup							4.96
OBIgroup: FXgroup							4.73

Source: Own calculation.

Appendix H. Predicted Risk Premium Change by OBI level



Source: Own calculation.

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