



Resumen 005

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## What are the Main Variables that Influence the Dynamics of Ecuador's Sovereign Risk?

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### Información

#### Palabras clave:

EMBI  
Blocked SVAR  
International market  
Spillover effect  
Domestic variables  
Public finance

#### Clasificación JEL:

E62, C32, F20, H63.

### Resumen:

This study aims to identify the main variables that determine the dynamics of the interest rate spread of international bonds issued by the Ecuadorian sovereign. It uses the Emerging Markets Bonds Index (EMBI) or country risk to understand the determinants of the cost of Ecuador's public debt. In principle, the EMBI is the interest rate premium over US bonds that investors will demand to invest in Ecuador's sovereign bonds and, therefore, is usually interpreted as a measure of the country's level of sovereign risk (Longstaff et al., 2011). With the adoption of the US dollar as Ecuador's legal tender in year 2000, the authorities gave up the use of monetary and exchange rate policies as instruments for macroeconomic stabilization. Thus, fiscal policy became the main macroeconomic policy over which the government maintained some level of discretion, partially constrained by a succession of fiscal rules adopted over the past two decades (see Camino-Mogro and Brito-Gaona, 2021; Cueva et al., 2018; SRI, 2012). Ecuador's level of fiscal spending has been primarily constrained by the government's capacity to raise revenues. In this context, over the past decades, the government has attempted to increase tax collection through various fiscal reforms and institutional revenues (Carrillo-Maldonado, 2017). However, authors such as Cueva et al. (2018) or de la Cruz et al. (2020) show that the level of taxes collected in Ecuador has persistently remained below the Latin America average, suggesting that a more ambitious domestic revenue mobilisation strategy may be needed going forward. Oil revenues have amounted to close to 27 percent of total public spending between 2000 and 2019, determined by a relatively stable production and highly volatile prices. In fact, the oscillations of international oil prices are crucial to understand the Ecuadorian business cycle and recent episodes of macroeconomic instability. The other source of resources to sustain public spending has been public debt obtained from multilateral and bilateral sources, banks and institutional investors. Illustrating the growing relevance of this last source of financing, between 2014 and 2019, Ecuador's stock of international bonds has increased from 13% to 38% of the total debt (Ministerio de Economía y Finanzas, 2020a). The main advantages associated with sovereign bond issues vis-a-vis the other source of finance is the depth of global financial markets and the fact that these resources are not.

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directly linked to a specific investment projects or the implementation of a given reform, thus allowing for a greater flexibility in the execution of the budget

The growing relevance of bonded debt justifies the analysis of the determinants of Ecuador's sovereign spreads that is conducted in this paper. We build up on other early contributions, such as Hilscher and Nosbusch (2010) or Comelli (2012), which have already tried to identify the determinants (or fundamental variables) that explain the dynamics of the EMBI in emerging and developing countries. In particular, this paper is related to del Cristo and Gomez-Puig (2017), which shows that the country risk of dollarized economies (Panama and Ecuador) shows More stable dynamic than other Latin American economies, such as Argentina or Brazil. Moreover, their results suggests that international factors are more important than national variables when it comes to explaining the variation of sovereign spreads. To the best of our knowledge, no empirical contributions have yet tried to identify "all" the domestic and international variables that determine the dynamics of the Ecuadorian EMBI. Diaz-Cassou and Ruiz-Arranz (2018) show qualitatively that the international price of oil (West Texas Intermediate, WTI) is the main variable explaining the evolution of Ecuador's country risk. del Cristo and Gomez-Puig (2017) use a vector autoregressive model with correction equation reaching the conclusion that public debt is the most important domestic determinant of sovereign spreads in Ecuador. However, they only include four domestic variables in their specification. Our paper contributes to the literature by expanding to 21 the set of variables included in analysis, including most of the factors identified in other contributions on the determinants of country risk. Another contribution of this paper is our empirical strategy: given that Ecuador is a small open economy, we build a structural autoregressive vectors (SVAR) with blocks of variables. International and domestic variables are included in the SVAR model, following the aforementioned literature, where the national variables do not affect the international factors (neither the contemporary relationship nor the lagged one). The EMBI of other Latin American countries is also added to assess the relevance of contagion or spillover effects. By contrasts, global VAR (GVAR) models, such as Favero (2013) or Temizsoy and MontesRojas (2019), allow for the interdependence of all variables among the countries included in the analysis. We use Bayesian econometrics to estimate this medium SVAR (21 variables), which allows us to obtain better estimates than the frequentist approach (see Chan, 2020; Karlsson, 2013; Koop and Korobilis, 2010). The empirical literature has distinguished between international determinants and domestic factors. Given that Ecuador is a small open economy model, the pull variables do not affect the dynamics of the international variables or those of developed countries (see Agenor and Montiel, 2015). Meanwhile, there is the possibility that developments in large emerging markets such as Argentina, Brazil or Mexico impact other Latin American countries, given the size of their economy in the region. Indeed, these cross-country spillover effects have been documented in past episodes of financial instability, such as the tequila crisis of the 1990s or the debt crisis in the 1980s (see Kehoe et al., 2021). We estimate a SVAR model with three blocks of variables. First, we include the international variables that are not expected to be affected by developments in Ecuador or in other Latin American economies, the "External Block". Second, we add a block with the EMBI of various Latin American countries to capture potential intra-regional spillover effects, the "Regional Block". Finally, the "Domestic Block" contains the pull variables that the literature has indicated as potential determinants of the EMBI, which are not expected to affect neither the push nor the regional variables. The most relevant result highlighted in this paper is that the external block of variables explains most of the variation observed in the Ecuadorian EMBI. More specifically, the price of oil is the most relevant determinant of investors' perceptions about Ecuador's country risk, followed by conditions in global financial markets. We also find that the EMBI of other Latin American countries matters too, evidencing the presence of intra-regional spill-over or contagion effects. By contrast, domestic developments appear to be less relevant for investors. The only domestic variable that has a significant explanatory power over the dynamics of the EMBI is the level of public debt. Moreover, this result holds even for periods in which Ecuador was going through its own idiosyncratic shocks, such as 2008-09, following the government's announcement of its decision to suspend the servicing of two international bonds. These results have relevant policy implications. First, it implies that replying primarily on international financial markets to cover ist fiscal needs increases the vulnerability of the Ecuadorian economy to shocks over which the authorities have very limited control. In fact, reducing the debt stock and ensuring its sustainability appears to be the only strategy that could potentially contain the EMBI and reduce its volatility. In this context, including a debt limit within the configuration of Ecuadorian fiscal rules seems to be justified if one of the objectives of this institutional setup is to improve access to private external financing.



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