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Coordination between monetary policy and fiscal policy for an inflation targeting emerging market☆

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ABSTRACT

Several studies including Blanchard (2004) and Favero and Giavazzi (2004) imply that in emerging market economies, a tight monetary policy within an inflation-targeting framework could actually increase the price level due to the lack of fiscal discipline and the associated high risk premium. We extend their arguments in two ways. First, we introduce a semi structural model with time-varying parameters, where the risk premium is 'unobserved' and it is derived within the system. Such an approach fits better with the volatile nature of emerging market economies by allowing us to track down the time-varying effects of macroeconomic dynamics on both the model-consistent risk premium and the other key variables. Second, we obtain impulse response functions and analyze the implications of a tight monetary policy on major macroeconomic variables. Taking the Turkish economy as our reference point, we find that the arguments of Blanchard (2004) and Favero and Giavazzi (2004) seem to be valid.

1. Introduction

The recent works by Blanchard (2004) and Favero and Giavazzi (2004) clearly show the importance of fiscal discipline and debt dynamics on the performance of inflation targeting for emerging markets. In an environment, where the domestic public debt is high and the average maturity is short, concerns

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about debt sustainability increase the risk premium significantly. Such a case poses a problem for monetary policy: a tighter policy associated with higher real interest rates would increase the debt service burden and could actually lead to capital outflows and eventually to a depreciation of the domestic currency by increasing the default risk. Then, given the high degree of exchange rate pass-through, which is another common characteristic of the emerging markets, the depreciation of the domestic currency increases the price level. As a result, the "price puzzle", which stems from the misidentification of VAR models in the literature, can actually emerge as a structural characteristic of emerging market economies, which implement tight monetary policies.

The argument above relies heavily on the operation of the uncovered interest rate parity condition in an unconventional way. Thus, developing an accurate measure of risk that reflects especially the fiscal performance of the economy emerges as a critical issue. In this context, the EMBI spread, prepared by JP Morgan has been used as the risk premium measure in many empirical studies. Intended principally for portfolio management purposes, this spread provides a measure of pure sovereign default risk and is constructed as excess promised returns on the United States Treasury.

However, it is still an open question whether the changes in the EMBI spreads are exclusively due to the fiscal performance of the economy. There are other factors as well which lead to significant movements in these spreads. Firstly, as Calvo (2003) argues, domestic factors appear to be irrelevant in explaining the EMBI spreads once the U.S. corporate spreads are taken into account. His study implies that the main determinant of this spread is "the risk appetite" of foreign investors. Secondly, EMBI spreads are highly sensitive to political news. Even in cases where political developments have temporary or negligible effects on the structure of the economy, sharp changes in the EMBI spreads are observed. Moreover, the bonds that form the EMBI spread typically have long maturities that do not reflect the government's fiscal flow position, which is another critical factor. Consequently, it can be argued that EMBI spreads reflect not only the fiscal side developments but also the external factors and the political news. Therefore, the changes in the EMBI spreads cannot be viewed as being derived solely from fiscal fundamentals. Finally, EMBI spreads are weighted averages that are not based on a structural model. However, as Ferrucci (2003) mentions, the default probability, thus the fiscal performance, depends on many macroeconomic factors such as the average maturity of the debt, risk-free interest rates, the country's leverage ratio and the expected future primary surpluses. Furthermore, there are several studies that analyze the interaction between fiscal policy and exchange rate policy.[1] Consequently, it may provide insightful results if the risk premium associated mainly with the domestic factors could be derived from a structural model, which includes the above factors and is consistent with the overall characteristics of the economy.

In this paper, consistent with the above arguments, we treat the 'risk premium' as an unobserved variable and derive it from a system of equations with time-varying parameters. In that sense, we obtain a 'model consistent' risk premium from a system which is designed to reflect the characteristics of an inflation-targeting emerging market economy with fiscal problems. A time-varying parameter framework is preferred since it will better fit with the volatile macroeconomic environment and the frequent structural changes in these economies. Such a methodology also allows us to track down the time-varying effects of macroeconomic dynamics on both the risk premium and other related variables. We also generate the impulse response functions and analyze the implications of the monetary policy on the system as a whole.

As will be clarified later, another contribution of this paper lies in the estimation methodology. Since the 'unobserved' risk premium and the time-varying parameters need to be simultaneously estimated, the state space representation of the model will have a non-linear characteristic, where the standard Kalman Filter fails to be appropriate. Then, the Extended Kalman filter (EKF), which is designed for the estimation of such non-linear systems, is employed.

Finally, since the above-mentioned papers stress the importance of fiscal performance on the success of monetary policy, for the application, an emerging market that reflects such characteristics should be chosen. We believe that the Turkish economy stands out as a very good example: After the

[1] Among these, Reinhart (2002) states that approximately 85% of all the defaults in emerging countries were linked to currency crises, which is a finding that explains the close relationship between the exchange rate and fiscal performance.