RESEARCH INSIGHTS

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What Valuable Lessons Can We Learn from Singapore's Unique Monetary Framework?

This study introduces a novel monetary policy framework that positions the exchange rate as the central policy instrument, focusing on Singapore as a case study.

The estimated changes in Singapore's exchange rate coincide fairly well with actual deviations, and the estimated parameters are as predicted.

These findings provide compelling evidence in support of the hypothesis that Singapore's monetary policy can be characterized by a forward-looking policy rule that responds to both inflation and output volatility, particularly in times of economic crises.

CONTEXT

Increasing globalization and growing international capital flows have presented significant challenges in implementing effective monetary policy and selecting appropriate policy instruments. These challenges are particularly pronounced for small, open economies that strive to control inflation despite constant foreign shocks. Singapore, recognizing these challenges, adopted a monetary policy framework centered on managing the exchange rate to promote price stability. Since 1981, the Monetary Authority of Singapore (MAS) has actively managed the Singapore dollar's exchange rate against a trade-weighted basket of currencies representing Singapore's major trading partners. This marks an importance divergence from traditional monetary approaches using interest rates or monetary aggregates.

PROJECT

This paper introduces a novel policy rule that places the exchange rate at the core of the monetary policy toolkit. Using Singapore as a case study, the paper establishes and evaluates a new reaction function to explore how changes in the trade-weighted nominal exchange rate respond to deviations in inflation and output deviations from their respective targets. This function explores how changes in the trade-weighted nominal exchange rate respond to deviations in inflation and output from their respective targets. The study aims to understand Singapore's unique approach to monetary policy and its implications for economic stability and growth.

RESULTS

The estimated reaction function reveals a forward-looking approach aimed at achieving stability in both inflation and output. The strong historical alignment indicates that this novel reaction function could serve as a valuable benchmark for characterizing monetary policy in Singapore. The estimated changes in the exchange rate align relatively well with actual deviations, and the estimated parameters are as anticipated.

They indicate that, in response to a 1 percent rise in expected inflation, the Trade-Weighted Index (TWI) is appreciated by 1.8 percent (Beta coefficient in Figure 1, with nine months in the inflation horizon), implying a real exchange rate appreciation of 0.8 percent. The coefficient associated with the industrial output gap is also positive and significant (Gamma, in Figure 1), suggesting that the monetary authority reacts by appreciating the exchange rate by 0.47 percent when domestic output is 1 percent above potential. The research also found that the policy response is more pronounced during economic downturns, such as the 2008–9 financial crisis and the COVID-19 pandemic. When these crises are considered, the coefficient associated with expected inflation is larger, implying a more substantial policy response when the economy faces a recession. This underlines the adaptive nature of monetary policy in addressing recessions and maintaining economic stability. These findings provide compelling evidence in support of the hypothesis that Singapore's monetary policy can be characterized by a forward-looking policy rule that responds to both inflation and output volatility.

POLICY IMPLICATIONS

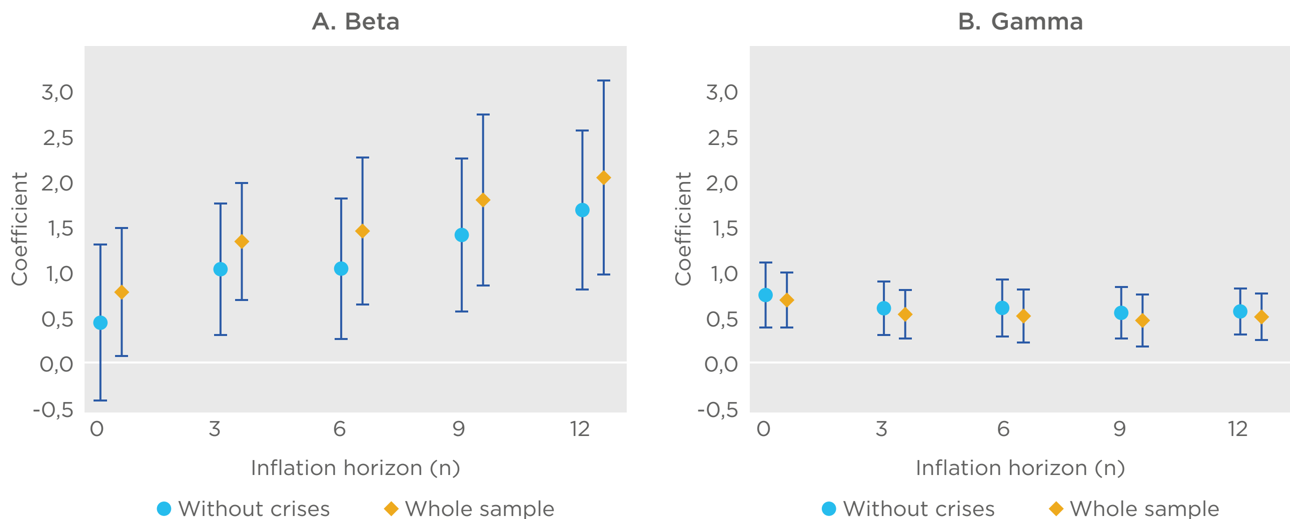
The findings of this study have significant implications for monetary policymaking, particularly for countries with high capital market openness facing challenges in implementing effective monetary policy using traditional interest rate instruments. Singapore's monetary policy framework, characterized by a forward-looking policy rule that responds to both inflation and output volatility, provides a promising alternative for countries facing similar challenges. Furthermore, this policy framework provides a promising alternative for countries with high capital market openness facing challenges in implementing effective monetary policy using traditional interest rate instruments. It demonstrates the potential for adaptive and responsive monetary policy that can effectively manage inflation and output volatility, particularly in times of economic crises.

Key Concept

TRADE-WEIGHTED NOMINAL EXCHANGE RATE

Nominal value of a country's currency compared to a basket of the currencies of its major trading partners, weighted proportionally to their prominence in the country's international trade.

Figure 1. Estimated Coefficients of Inflation Gap (Beta) and Output Gap (Gamma)



Source: Authors' calculations.
Note: The set of instruments includes 1 to 12 lags of CPI inflation, the industrial production gap, the TWI, the World Commodity Index, and the nominal federal funds rate. Contemporaneous CPI inflation and TWI are also included as instruments. The data range between 1985:01 – 2007:12 and 2010:01 - 2019:12 when the 2008-09 financial crisis and the COVID-19 crisis are excluded.

Key Concept

REACTION FUNCTION

Equation that describes how a policymaking entity adjusts its policy instrument in response to certain economic indicators such as inflation and output deviations from their respective targets.

FULL STUDY

Parrado, Eric. 2023. "An Exchange Rate Policy Rule." IDB Working Paper 1482. Washington, DC: Inter-American Development Bank.

DEPARTMENT OF RESEARCH AND CHIEF ECONOMIST

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