DYNAMICS OF MONETARY POLICY SPILLOVER: THE ROLE OF EXCHANGE RATE REGIMES IN ASIAN CONTEXT

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APPLIED

Econometrics

PROBLEM STATEMENT

In recent years, the spillover effects of monetary policies have been a topic of significant interest in academic literature and policy debates. Understanding the dynamics of these spillovers is crucial for policymakers, as their decisions affect their economies and those of their trading partners. Exchange rate regimes play a crucial role in determining the extent and direction of these spillovers, particularly in the context of Asian economies that have undergone significant structural changes in recent decades. This paper aims to investigate the dynamics of monetary policy spillovers across Asian countries and examine the role of exchange rate regimes in shaping these spillovers.

Specifically, the study seeks to answer two key research questions:

(i) How do monetary policy shocks in one country affect economic activity and inflation in other Asian countries with different exchange rate regimes?

(ii) To what extent do exchange rate regimes moderate the transmission of monetary policy shocks across Asian economies?

LITERATURE REVIEW

1.

Monteiro and Sadeghi's (2016) paper investigates the impact of exchange rate regimes on export performance in emerging economies. The authors use data from 51 emerging economies from 1980 to 2012 and employ a fixed-effect panel model to analyse the relationship between exchange rate volatility, exchange rate regimes and export performance. The study finds that flexible exchange rate regimes positively impact export performance, while fixed exchange rate regimes lead to a decline in export growth. The authors argue that flexible exchange rate regimes help exporters manage currency risks and improve competitiveness. In contrast, fixed exchange rate regimes limit the flexibility of the exchange rate and make it difficult for exporters to adjust to external shocks. The paper contributes to the literature by providing empirical evidence that supports the benefits of flexible exchange rate regimes for export-oriented emerging economies.

LITERATURE REVIEW

2.

In "The Impact of Exchange Rate Regimes on Monetary Policy Transmission in Emerging Market Economies," Kandil and Mirzaie examine the impact of exchange rate regimes on the transmission of monetary policy in emerging market economies (EMEs). The authors use a panel data set of 27 EMEs and analyse the relationship between exchange rate regimes, monetary policy transmission, and economic performance. The study finds that exchange rate regimes affect the effectiveness of monetary policy transmission in EMEs. The exchange rate is more responsive to policy changes in countries with a flexible exchange rate regime. The authors conclude that policymakers in EMEs should consider adopting more flexible exchange rate regimes to enhance the effectiveness of their monetary policy transmission mechanisms.

LITERATURE REVIEW

3. In "Exchange Rate Regimes and the Monetary Transmission Mechanism in East Asia",
J. Kim and M. Song examine the relationship between exchange rate regimes and the
monetary transmission mechanism in East Asian countries, using data from 1980 to
2012. The authors find that the effectiveness of the monetary transmission
mechanism varies depending on the exchange rate regime and that countries with
flexible exchange rate regimes tend to have more effective monetary transmission
mechanisms than those with fixed or managed exchange rate regimes. Additionally,
they find that the effectiveness of the monetary transmission mechanism is positively
related to the degree of financial openness, the depth of the financial system, and the
degree of fiscal discipline. The study provides important insights into the relationship
between East Asia's exchange rate regimes, monetary policy, and economic
performance.

OBJECTIVES & RESEARCH GAPS

The objective of our report is to analyze the spillover effects of monetary policy in Asian countries and examine the role of exchange rate regimes in these effects.We try to examine how different exchange rate regimes affect the transmission of monetary policy across countries in Asia and to examine whether countries with fixed exchange rates experience different spillover effects compared to those with flexible exchange rates.

We also try to evaluate the impact of monetary policy actions by one country on the economies of Asian countries and to analyze how the exchange rate regime affects the extent and duration of spillover effects using various econometric methods.
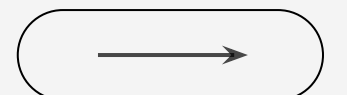
OBJECTIVES & RESEARCH GAPS

While the papers above provide valuable insights into the relationship between exchange rate
regimes, monetary policy, and macroeconomic outcomes, there are several potential research
gaps in the existing literature related to the dynamics of monetary policy spillovers and the role
of exchange rate regimes. Here are a few possible avenues for further research:

- Limited focus on developing countries.
- Neglect of nonlinear effects.
- Lack of attention to financial market spillovers.
- Need for a more nuanced analysis of exchange rate regimes.
- Difficulty in identifying causality.

RESEARCH METHODOLOGY

We use the methodology of the spillover index and the associated tools of spillover tables and spillover plots. The spillover index is a measure used in economics to assess the degree of interdependence between different economic units or regions. The spillover index can be used to analyse the impact of shocks or policy changes in one region on other regions, as well as to identify the channels through which these spillovers occur.

In our study, we use a simple covariance stationary two-variable VAR(1) process:

$Y_t = \Phi Y_{t-1} + \varepsilon_t$

As illustrated by Rohit and Pradyumna(2019), the SI for such a case can be represented as:

$$SI = \frac{\sum_{k=0}^{h-1} \sum_{i,j=1 \atop i \neq j}^{N} \widetilde{a}_{k,ij}^2}{N} \times 100$$

RESEARCH METHODOLOGY

Data for this model has been collected from the Databank of the World Bank. The World Bank collects these data from the national statistical systems of the member nations. Therefore the authenticity of the data depends on the degree of accurate representation of the said data by the statistical system of the member nations. The study specifically focuses on the use of short-term interest rates of six Asian Economies (India, China, Korea, Japan, Indonesia, and Israel), with the US as the Central Economy(CE). We use high-frequency (monthly) data to capture quick-changing dynamics in the money market of the sample economies. The study covers the period from May 20, 2016, to December 30, 2021.

MAJOR FINDINGS

Looking at the FEVD for STI (India), we can see that in period 0, all the forecast error variance is attributed to STI (India) itself, with no contribution from any of the other variables. As we move further down the table, we see that the contribution of STI (India) to the forecast error variance decreases, while the contribution from other variables such as STI (China), STI (Japan), STI (Indonesia), and Crude Oil increases. This suggests that these variables become more important in explaining the variance of the forecast error for STI (India) as we move further into the future.

Similarly, looking at the FEVD for STI (China), we see that in period 0, almost all the forecast error variance is attributed to STI (China) itself, with very little contribution from any of the other variables. However, as we move further down the table, we see that the contribution from STI (China) decreases, while the contribution from other variables such as STI (India), STI (Korea), STI (Japan), and S&P 500 increases. This suggests that these variables become more important in explaining the variance of the forecast error for STI (China) as we move further into the future.

CONCLUSION

For each of the six countries in the model (India, China, Korea, Japan, Indonesia, and Israel), there is a constant term and coefficient for the lagged values of the country's own stock market index (STI).

For each country, there are also coefficients for the lagged values of the other countries' stock market indices, crude oil prices, and the S&P 500 index.

The lagged value of STI (India) has a positive and statistically significant coefficient on STI (India) in the next period, as expected.

The lagged value of STI (China) has a positive and statistically significant coefficient on STI (China) in the next period, but the coefficient for STI (India) is not statistically significant.

The lagged value of STI (Korea) has a positive and statistically significant coefficient on STI (Korea) in the next period, and the coefficients for STI (India) and STI (China) are also statistically significant but smaller in magnitude.

The lagged value of STI (Japan) does not have a statistically significant coefficient on STI (Japan) in the next period.

THANK YOU!!