Inflation Persistence and Monetary Policy Effectiveness: Evidence from Emerging Economies

Inflation has long been a major macroeconomic issue for emerging economies. Despite the fact that many emerging economies have adopted strategies of reducing inflation and achieving price stability over the past thirty years, the policies adopted and strategies used have not always produced the desired results. The fact that inflation has persisted for such a long period of time, despite temporary shocks, has raised important questions about the credibility and efficacy of monetary policy in emerging economies.

Inflation persistence refers to the degree to which current inflation is significantly affected by past inflation and the gradual decay of inflationary shocks over time. In cases where inflation persistence is high, central banks may be forced to adopt more aggressive and prolonged monetary policies to maintain price stability and maintain the value of the currency. However, these policies may also involve additional costs, such as output costs and risks to financial stability.

The high degree of inflation persistence in emerging economies can be attributed to a number of structural, political, and institutional factors. Volatility of exchange rates, fiscal dominance, a lack of central bank independence, institutional factors, and issues with expectations management may weaken the transmission mechanism of monetary policy. As a result, the efficacy of monetary policy in reducing inflation may be impaired, and as such, inflation persistence may remain high. As such, the relationship between monetary policy and inflation persistence is an important area of empirical analysis.

The purpose of this study is to examine the relationship between inflation persistence and monetary policy in emerging economies. Using panel data analysis techniques, this study will assess the role of monetary policy instruments and institutional factors in shaping inflation. The results of this study are expected to shed light on the design of policies to achieve price stability in emerging economies.

Literature Review

Inflation persistence has been widely examined in macroeconomic literature. Early studies focused on measuring persistence using autoregressive models and inflation indices such as CPI and PPI. These studies analyze the relationship between current and past inflation and evaluate how quickly inflation shocks dissipate over time.

Monetary policy effectiveness plays a crucial role in shaping inflation dynamics. According to macroeconomic theory, monetary policy affects inflation through interest rates, expectations, exchange rates, and credit channels. Independent and credible central banks are better able to manage expectations and enhance policy transmission.

Emerging economies face structural challenges such as exchange rate volatility, fiscal imbalances, and institutional weaknesses. While inflation dynamics and monetary policy effectiveness have often been studied separately, limited research examines them jointly within a unified empirical framework for emerging markets.

Theoretical Framework

The Phillips Curve is a widely used tool for explaining inflationary pressures. The traditional Phillips Curve specification describes a negative relationship between inflation and unemployment. However, over the years, the addition of expectations has altered the Phillips Curve specification to a revised version. The New Keynesian Phillips Curve (NKPC) assumes that inflation is driven by forward-looking expectations and real economic factors, such as the output gap. This theory assumes that past inflation observations also affect the inflation process due to price rigidities and contracts, which supports the idea of inflation persistence. When inflation has a strong dependence on its past observations, the attenuation of fluctuations takes longer, leading to higher and more persistent inflation. This can cause distortions in price stability and wage setting.

Inflationary expectations are critical for the success of monetary policies. In rational expectations theory, economic agents use available information and data to form expectations about future inflation. If the central bank is credible and maintains price stability, inflationary expectations will move closer to the target, making it easier to achieve disinflation. However, when inflationary expectations are adaptive and are mainly anchored to past inflation, the persistence of inflation may remain high, as is often seen in emerging markets.

The reaction of monetary policy to inflation is generally analyzed in the context of the Taylor Rule framework. The Taylor Rule assumes that the central bank changes its policy interest rate in response to changes in inflation and the output gap relative to their targeted levels.

Data and Methodology

This paper uses a panel data set of chosen emerging economies over a specified time period. The data is gathered on an annual basis from international sources such as the World Bank, the International Monetary Fund (IMF), and other credible sources.

Inflation persistence is modeled using an autoregressive model:

$$\pi_{it} = \alpha + \beta\pi_{it-1} + \varepsilon_{it}$$

To test the effect of monetary policies, the following fixed-effects panel model is estimated:

$$\pi_{it} = \alpha + \beta\pi_{it-1} + \gamma MP_{it} + \delta X_{it} + \propto_i + \lambda_t + \varepsilon_{it}$$

Empirical Results and Discussion

The empirical findings reveal that the coefficient associated with the lagged inflation term (β) is positive and significant at the 1% level. The value of β is estimated to be around 0.72, reflecting high inflation persistence.

The policy interest rate has a negative and significant coefficient, indicating that contractionary monetary policy reduces inflation, though moderately.

Exchange rate pass-through is positive and significant, suggesting depreciation increases inflationary pressures. The output gap also positively affects inflation. Fiscal variables show a weaker but positive relationship.

Overall, inflation persistence remains a structural feature of many emerging economies. Monetary policy is effective but constrained by structural and institutional factors. Future research could apply dynamic panel methods or higher-frequency data to improve robustness.