

# Monetary Policy in Transition: A Literature Review on Institutions, Expectations, and Emerging Challenges

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**Abstract:** *This paper reviews recent literature on monetary policy, highlighting institutional frameworks, behavioral dynamics, and emerging macroeconomic challenges. Studies are grouped into six themes: central bank independence, policy effectiveness in developing economies, expectations and communication, inflation under external shocks, unconventional instruments, and sustainability through green finance. The review shows that while inflation control and output stabilization remain central, credibility, political economy constraints, and environmental factors increasingly shape outcomes. Significant gaps persist in integrating institutional, behavioral, and ecological dimensions into coherent policy frameworks. Future research should bridge traditional models with approaches reflecting uncertainty, heterogeneity, and structural change.*

**JEL Codes:** E52 (Monetary Policy), E58 (Central Banks and Their Policies), E61 (Policy Objectives; Policy Designs and Consistency), Q54 (Climate; Natural Disasters), G28 (Financial Institutions and Policy)

**Keywords:** Monetary policy, Central bank credibility, Inflation expectations, Unconventional policies, Green finance

## 1. Introduction

The literature review on monetary policy, inflation dynamics, and macroeconomic stability has expanded considerably in recent decades, reflecting the evolving challenges faced by central banks in both advanced and emerging economies. Scholars have investigated institutional frameworks, policy effectiveness, and the interaction between monetary policy and broader socio-economic developments such as climate change, structural transformations, and communication strategies. The contributions under review highlight both traditional concerns—such as the control of inflation, the transmission of monetary shocks, and the credibility of central banks—as well as emerging issues, including public attention to inflation, energy price shocks, and the role of green finance. Collectively, these studies enrich our understanding of how monetary policy operates across diverse contexts, while also pointing to gaps and tensions in theory, practice, and policy design. The research papers can be categorized in the following thematic:

### Thematic structuring and paper mapping

1) Institutional Frameworks and Comparative Perspectives  
Analyses of central banks such as the ECB, the Bank of England, and the Federal Reserve shed light on differences in institutional independence, mandates, and responses to crises. These studies contextualize monetary policy within broader governance structures, highlighting how institutional design shapes credibility and adaptability.

Paper: A comparative analysis of the European Central Bank (ECB), Bank of England, and the Federal Reserve System (Mladenoski, n.d.)

2) Monetary Policy Effectiveness in Emerging and Developing Economies

Empirical studies on Ethiopia, Pakistan, and Indonesia assess how monetary instruments affect inflation and growth under structural constraints. The role of fiscal dominance, credibility indices, and weak transmission mechanisms emerges as a recurring theme.

Papers:

An empirical analysis of policy instruments influencing economic growth and price stability in low-income nations (Hakimah, 2025)

Assessing the effectiveness of monetary policy in controlling inflation in Ethiopia (Berhanu, 2025)

Monetary policy and inflation dynamics in Pakistan (Shakti et al., 2025)

Monetary Policy in Indonesia: Dynamics of Inflation, Credibility Index and Output Stability Post Covid 19: New Keynesian Small Macroeconomics Approach (Ruslan et al., n.d.)

3) Expectations, Communication, and Behavioral Dimensions

Research on disagreement about inflation expectations, central bank communication with households and non-experts, and limited public attention to inflation emphasizes the behavioral underpinnings of policy effectiveness. These works illustrate how information design, credibility, and attention levels critically shape monetary transmission.

Papers:

Central bank communication with non-experts: insights from a randomized field experiment (Jung et al., 2025)

Disagreement about inflation expectations and monetary policy transmission (Falck et al., 2019)

Inflation -Who cares? Monetary policy in times of low attention (Pfauti, 2021)

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Long term inflation expectations and the transmission of monetary shocks: Evidence of a SVAR analysis (Diegel et al., 2021)

Monetary policy communications and their effects on household inflation expectations (Coibion et al., 2021)

#### 4) Inflation Dynamics and External Shocks

Studies on exchange rates, Phillips curve dynamics, and energy price shocks examine how external shocks interact with domestic policy frameworks. Climate-related shocks and structural reallocations further complicate the inflation-output trade-off, requiring non-traditional approaches.

##### Papers:

Climate and monetary policy: do temperature shocks lead to inflationary pressures? (Mukherjee et al., 2021)

Determination of inflation in an open economy Phillips curve framework: the case of developed and developing Asian countries ((Dua & Gaur, 2010)

Exchange rate and inflation under weak monetary policy: Turkey verifies theory (Gurrkaynak et al., 2022)

Managing an energy shock: Fiscal and monetary policy (Auclert et al., 2023)

Monetary policy in time of structural reallocation (Guerrieri et al., 2021)

#### 5) Unconventional Policies and Financial Stability

Analyses of quantitative easing, low interest rate environments, and the interaction between monetary policy and financial stability highlight the expanded toolkit of central banks. Findings suggest that unconventional tools mitigate constraints at the effective lower bound, but raise concerns about side effects and long-term financial imbalances.

##### Papers:

Financial effects of QE and conventional monetary policy compared (Weale & Wieladek, 2022)

Forecasting interest rates of China using univariate, multivariate and combination technique (Zafar & Asadullah, 2025)

Macroeconomic stabilization and monetary policy effectiveness in a low-interest-rate environment (Coenen & Montes-Galdon, 2021)

#### 6) Monetary Policy, Sustainability, and Green Finance

Emerging work on climate change and green finance underscores the trade-offs between stabilizing inflation, safeguarding financial markets, and supporting sustainable investment. This strand of the literature suggests an evolving role for central banks beyond their traditional mandates.

##### Paper:

Monetary Policy, Financial Stability, and Green Finance: Trade-offs in Renewable Energy Consumption (Lucchetta, n.d.)

## 2. Critical Analysis

The literature reviewed in this research demonstrates a rich variety of methodological approaches, institutional contexts, and thematic concerns, yet several critical insights emerge when these contributions are assessed collectively. First,

while comparative institutional studies underscore the importance of central bank independence and mandate design, they tend to lack deeper analytical engagement. Few works engage with the political economy forces that shape institutional credibility over time, particularly in emerging economies where legal frameworks may exist but enforcement is weak. This suggests a gap in integrating institutional analysis with real-world constraints such as political interference and fiscal dominance.

Second, research on emerging and developing economies highlights the structural fragility of monetary transmission mechanisms. Case studies such as Ethiopia, Pakistan, and Indonesia show that traditional tools like reserve requirements and interest rate adjustments may have limited or asymmetric effects under conditions of weak financial markets and high fiscal pressures. However, these studies are often country-specific, limiting generalizability. Comparative cross-country analyses that account for heterogeneity in institutional development and openness remain scarce.

Third, the behavioral dimension of monetary policy—expectations, communication, and attention—has gained prominence, but the findings remain fragmented. Several randomized controlled trials provide compelling evidence that central bank communication can shape household expectations, though these effects may not be long-lasting. Moreover, while models of limited attention and dispersed information reveal important mechanisms, the integration of these insights into mainstream policy design is still underdeveloped. The literature therefore points to an urgent need for frameworks that bridge behavioral findings with operational policy rules.

Fourth, the treatment of external and structural shocks exposes a tension between traditional monetary models and contemporary realities. Research into energy shocks and climate-induced inflation, and structural reallocations suggest that standard Phillips curve or New Keynesian models may fail to capture persistent non-linearities and distributional effects. Yet, the incorporation of these shocks into central banking strategies is still in its infancy, raising questions about the adequacy of existing theoretical frameworks.

Fifth, research on unconventional policy tools and financial stability finds that quantitative easing and forward guidance can mitigate constraints at the effective lower bound, but also raises concerns about side effects. However, empirical findings remain inconclusive regarding whether unconventional measures pose greater risks to either financial stability or increased inequality compared to conventional tools. This ambivalence underscores the need for further empirical validation across jurisdictions and time periods.

Finally, the literature on sustainability and green finance reveals an expanding policy frontier for central banks. While these studies highlight the potential conflicts between price stability, financial stability, and climate objectives, they largely remain exploratory. There is limited empirical evidence on the effectiveness of proposed green monetary instruments, and little consensus on the appropriate division of responsibilities between monetary and fiscal authorities.

Taken together, these insights suggest that the field is undergoing a transition: from a focus on narrowly defined monetary objectives toward a broader, more complex understanding of central banks' roles in economies characterized by uncertainty, heterogeneity, and structural change. The gaps identified—particularly the limited integration of institutional, behavioral, and environmental factors—offer promising avenues for future research.

### 3. Research studies in detail:

Mladenoski's study conducts a comparative analysis of the European Central Bank (ECB) and Eurosystem, the Bank of England (BoE), and the Federal Reserve System (FED). The research focuses on their institutional structures, legal frameworks, primary monetary policy goals, degree of independence, applied instruments, and their responses to economic crises, particularly during the 2020-2024 period, encompassing the global pandemic and inflationary shock. It also examines the role of central banks in addressing climate-related financial risks and digital transformation. The paper employs a qualitative comparative analysis, drawing on primary sources such as official documents (e.g., Maastricht Treaty, Treaty on the Functioning of the European Union, Federal Reserve Act of 1913, Bank of England Act of 1844) and institutional publications (annual reports, inflation reports). Secondary sources include relevant academic literature, scientific papers, expert analyses, and reports from international organizations like the IMF and BIS. The approach is theoretical and institutional, aiming to understand the legal, operational, and organizational mechanisms of these banking systems. Its key findings are as follows:

- The ECB enjoys high formal independence guaranteed by Article 130 of the Treaty on the Functioning of the European Union (TFEU), prohibiting external instructions. The BoE gained operational independence in 1998, while the FED has formal independence with Congressional oversight.
- The ECB has a single primary goal of price stability. In contrast, the BoE and FED operate under a dual mandate, targeting both price stability and economic growth/employment.
- The ECB's approach to quantitative easing (QE) since 2015 is often constrained by the heterogeneity of member states and strict legal frameworks. The BoE demonstrates greater flexibility and adaptability in using monetary instruments, including interest rate adjustments and asset purchases, and reacted swiftly to COVID-19 and energy crises. The FED is noted for its aggressive monetary easing, low interest rates, extensive asset purchase programs, and agile response during crises like the 2008 financial crisis and COVID-19.
- All three institutions strive for transparency. The ECB publishes detailed meeting minutes and inflation reports, though its communication can be perceived as technocratic due to its complex supranational structure. The BoE and FED employ clear communication strategies, including public discussions and economic projections, to manage market expectations. (Mladenoski, n.d.)

Hakima's paper aims to empirically analyze how fiscal, monetary, trade, and regulatory policies influence economic

growth and price stability in low-income nations, considering their unique challenges. It employs a qualitative approach, utilizing a systematic literature review to synthesize findings from peer-reviewed journals, books, and reports spanning the last two decades. This methodology allows for the exploration of nuanced perspectives on policy effectiveness and contextual challenges in resource-constrained settings. A key finding of the research is that government spending on infrastructure and human capital development drives economic growth, as exemplified by countries like Ethiopia and Rwanda, but requires careful management to avoid inflationary pressures. Inefficient budget management can lead to inflationary pressures and undermine market confidence. Apart from that, monetary policies stabilize prices through interest rate adjustments, but tight measures can hinder investment in resource-constrained settings. Their effectiveness depends on central bank credibility and financial market depth. Further on, trade policies enhance growth by fostering market integration, but reliance on commodity exports risks price volatility. Complementary policies are crucial to protect vulnerable sectors from the negative impacts of trade liberalization. Finally, Strong governance, transparency, and effective oversight are critical for effective policy implementation and magnify the positive impact of public policies. Weak governance and corruption undermine policy implementation. (Hakimah, 2025)

Tsige's study aimed to assess the effectiveness of monetary policy in controlling inflation in Ethiopia using time-series data from 1991 to 2023. It also sought to address gaps in existing literature by incorporating structural variables like external debt and unemployment. This research adopts an Autoregressive Distributed Lag (ARDL) model to analyze both long-run and short-run dynamics. Secondary data was sourced from the National Bank of Ethiopia, International Monetary Fund, and World Bank. Granger causality tests were also conducted to determine directional relationships between variables.

Its major key findings are:

- In the long run, broad money supply (BMS) significantly and positively affects inflation, supporting the monetarist theory.
- The reserve requirement ratio (RRR) has a significant negative impact on inflation, indicating that tighter requirements reduce inflationary pressures.
- External debt (EXD) surprisingly shows a negative long-run relationship with inflation, suggesting potential stabilizing effects through productive investments.
- Exchange rates, interest rates, and unemployment do not significantly influence inflation in the long run.
- Short-run dynamics show a rapid adjustment mechanism, with deviations from equilibrium corrected at approximately 169% annually.
- In the short run, broad money supply has a positive and statistically significant impact on inflation (a 1% increase raises inflation by 2.48%), while exchange rate depreciation temporarily reduces inflation.
- Granger causality tests confirmed that money supply, exchange rates, and interest rates influence inflation, with bidirectional causality between inflation and interest rates, and inflation and external debt. No causal relationship was found between inflation and unemployment.

Overall, this study highlights that while monetary policy plays a crucial role in inflation management in Ethiopia, its effectiveness is constrained by structural and external factors. It recommends disciplined monetary targeting, proactive RRR adjustments, enhanced exchange rate flexibility, and improved fiscal-monetary coordination to refine policy frameworks. The findings also emphasize the need for further research into nonlinear effects, higher frequency data, and comparative studies to develop more robust and effective monetary policy frameworks. (Tsige, 2025)

Jung and Mongelli's paper investigate the impact of direct central bank communication on non-experts' monetary policy knowledge and expectations. Employing a randomized field experiment at the ECB Visitor Centre, nearly 5,000 participants were exposed to policy briefings, mimicking ECB press conferences. The methodology involved random assignment to treatment, placebo, or control groups, and a new survey measured monetary policy knowledge and inflation/growth expectations before and after the intervention. The treated individuals significantly improved their monetary policy knowledge and better understood the ECB's inflation target. This effect was more pronounced for participants with lower initial knowledge. A substantial share of treated non-experts revised their medium-term inflation expectations to align with the ECB's target. This anchoring was driven by both improved knowledge and enhanced trust in the speaker. The improved understanding of monetary policy did not lead to systematic revisions in economic growth expectations. Participants perceived growth forecasts as more uncertain or less directly influenced by monetary policy. Removing language barriers amplified the effects of direct communication on monetary policy knowledge and individual inflation expectations, highlighting the value of communicating in native languages.

Direct central bank communication is valuable for enhancing monetary literacy and shaping inflation expectations among non-experts, supporting price stability. Central banks should tailor communication for diverse audiences, strengthen financial literacy efforts through educational programs, and utilize indirect channels like social media to broaden reach. (Jung & Mongelli, 2025)

Mukherjee & Ouattara's research investigates whether temperature shocks lead to inflationary pressures, a topic often overlooked in recent economic discussions on climate-related economic impacts. The study employs a panel-VAR (Vector Autoregression) method with fixed-effects, analyzing data from a sample of developed and developing countries between 1961 and 2014. The model incorporates variables such as temperature, inflation (CPI), GDP, government spending, and monetary aggregate (M2). The research's key findings include insight about inflationary pressures, the persistence of effects, and output contraction. Namely, the results consistently indicate that temperature shocks lead to inflationary pressures in both developed and developing countries. For the whole sample, a 1% change in temperature causes inflation to increase by 2.632% instantaneously. For developing countries, these inflationary effects are particularly worrying as they can persist for several years after the initial shock, sometimes up to six years or more. In developed countries, the effect tends to die out more quickly,

becoming insignificant after about one year. Beyond inflation, temperature shocks also lead to a contraction in output, particularly in developing countries, creating a challenging trade-off for central banks. (Mukherjee & Ouattara, 2021)

Dua & Gaur' paper analyzes the factors influencing inflation within a Phillips curve framework across eight Asian countries, including both developed and developing economies like Japan, China, and India. Utilizing data from 1990 to 2005, it emphasizes the roles of the output gap and international competitiveness in understanding inflation dynamics. The findings indicate that incorporating future inflation expectations within the Phillips curve offers a more accurate modeling approach compared to traditional backward-looking versions. This suggests that policymakers should consider forward-looking indicators for more effective inflation management in diverse economic contexts. (Dua & Gaur, 2010)

Falck et al. research investigates how disagreement regarding future inflation interacts with the effectiveness of monetary policy. It explores the implications of varying levels of inflation expectation disagreement for monetary policy transmission. Research's key findings have to do with state-dependent monetary transmission, the impact of contractionary shocks, and with the periods of low disagreement. Namely, the study reveals new empirical evidence that monetary policy transmission is state-dependent, meaning its effects vary based on the level of disagreement about inflation expectations. When disagreement is high, a contractionary 100 basis points U.S. monetary policy shock leads to a statistically significant increase in inflation and inflation expectations, rising by up to 0.7 percentage points over two to three years. This finding, where prices increase after a monetary tightening, is referred to as the 'price puzzle'. Conversely, during periods of low disagreement, the same contractionary shock results in a significant decline in inflation and inflation expectations, by approximately 0.8 percentage points over the same horizon. These empirical findings pose a challenge to traditional benchmark models of expectation formation, which often assume constant levels of disagreement. The state-dependent effects on inflation and inflation expectations are robust across various dimensions, including alternative measures of disagreement (e.g., interquartile range), different control variables (e.g., oil prices, aggregate uncertainty), and different sub-samples. The authors reconcile these state-dependent effects using a regime-switching dispersed information New Keynesian model. In this model, firms have dispersed information and form beliefs about the economy's true state, with the central bank's interest rate decisions acting as a public signal. The model demonstrates that the strength of this signaling channel depends on the degree of disagreement. In high-disagreement regimes, firms interpret an unexpected interest rate increase as an indicator of rising demand, leading them to raise prices, which results in a temporary increase in inflation and inflation expectations. This signaling channel is a potential explanation for the 'price puzzle'. In low-disagreement regimes, the conventional monetary policy transmission mechanism dominates, leading to a decline in inflation and

inflation expectations in response to a contractionary shock. (Falek et al., 2019)

Gürkaynak's research examines the macroeconomic outcomes in Turkey, specifically focusing on the exchange rate and inflation dynamics under a unique monetary policy experiment. It argues that standard New Keynesian models can explain Turkey's experience, serving as a cautionary tale for policymakers who ignore basic macroeconomic principles. More specifically, the research analyzes a significant shift in Turkey's monetary policy rule over the past decade, driven by a government belief that higher interest rates cause higher inflation, leading to a mandate for low interest rates. This resulted in the Taylor principle not being satisfied, and eventually, a negative coefficient on inflation in the policy rule. The study uses this 'unfortunate but clear natural experiment' in Turkey to test whether a standard New Keynesian model adequately captures the effects of such policy changes. The authors conclude that well-understood economic principles and theory suffice to explain the observed outcomes. In general, this study serves as a cautionary tale about the detrimental effects of disregarding fundamental macroeconomic principles, highlighting how neo-Fisherian disinflation can succeed or fail in theory and practice. Since around 2011, the Turkish lira has depreciated rapidly, and inflation has skyrocketed. The lira depreciated by approximately 420% compared to 2003 by September 2021, significantly more than other emerging market currencies. Contrary to a random walk model, the Turkish lira's exchange rate has not behaved as such over the last two decades, with depreciation accelerating over time. The percentage change in the lira exchange rate has shown a statistically significant upward trend. A bivariate unobserved component model reveals a strong co-movement between inflation and exchange rate trends, particularly since 2011, suggesting a Purchasing Power Parity (PPP) relationship. Innovations to both trend components are driven by a common source. Another detail is that the paper argues that domestic factors, rather than global ones, are primarily responsible for the divergence of Turkey's economic performance from other emerging markets. This is linked to a decline in institutional quality. Empirical analysis shows that the Central Bank of the Republic of Turkey (CBRT) deviated from the Taylor principle, with the policy parameter for inflation often being statistically insignificant or below unity, leading to indeterminacy in inflation and exchange rate. The paper's theoretical framework is the neo-Fisher effect, where permanently lower interest rates, if accompanied by expectations of a lower steady-state inflation target, can lead to lower inflation. However, the Turkish case demonstrates that if sustained interest rate cuts are not credible in lowering the inflation target, it leads to adverse outcomes. Furthermore, the study emphasizes that Turkey's public finances were in good order and did not require monetary policy assistance between 2010 and 2018, indicating that the monetary policy choices were not driven by fiscal dominance but rather by political pressure. The study's theoretical model incorporates an effective upper bound on the policy rate, often politically induced, which can lead to uncontrolled inflation when the Taylor principle is violated. This is seen as the 'flip side' of the effective lower bound (ELB) problem. (Gürkaynak, n.d.)

Weale & Wieladek's study aims to compare the financial effects of Quantitative Easing (QE) with those of conventional monetary policy in the Euro Area, the UK, and the US. The central question is whether QE's financial impacts on variables like private credit imbalances, financial market risk, and asset valuation differ significantly from those of conventional monetary policy, especially when standardized by their effect on inflation. The study addresses concerns raised by policymakers and institutions, such as the German Constitutional Court and ECB President Christine Lagarde, regarding the potential unintended consequences and side effects of QE, including its impact on wealth inequality and financial stability. The methodology used is an agnostic Bayesian VAR (BVAR) framework, similar to previous work by Weale and Wieladek (2016), to analyze monthly data. To identify QE and conventional monetary policy shocks, the researchers use four different identification schemes: Choleski decomposition, sign restrictions, sign-zero restrictions, and sign variance decomposition restrictions. This comprehensive approach aims to reduce susceptibility to identification uncertainty and structural break bias. The BVAR models for QE are estimated using data from periods when central banks primarily relied on QE (e.g., March 2009 to November 2015 for the US, March 2009 to May 2016 for the UK, and January 2015 to February 2020 for the Euro Area). For conventional policy, models are estimated from January 1997 to June 2007 for the US and UK, and January 1999 to June 2007 for the Euro Area. QE is measured using either asset purchase announcements or the shadow short-term interest rate. Conventional monetary policy is also assessed using the shadow short-term interest rate. To enable comparison, impulse responses are scaled by the peak Consumer Price Index (CPI) response generated by each policy, ensuring that effects are compared conditional on achieving the same inflation target. The study also uses a regression model with high-frequency financial market data (implied volatility, BAA spread, EM corporate bond spreads) to test for differences between QE and conventional monetary policy effects. Despite concerns about QE leading to greater financial instability or wealth inequality compared to conventional monetary policy, this study finds no clear, systematic evidence to support such a claim. While both QE and conventional monetary policy produce financial effects, the majority of evidence suggests no statistically significant difference in their impact on financial variables when normalized by their effect on inflation. This challenges the assertion that QE inherently has stronger financial effects than conventional monetary policy. (Weale & Wieladek, 2022)

Asadullah's study investigates the effectiveness of univariate, multivariate, and combination forecasting techniques for predicting China's interest rates, focusing on the Shanghai Interbank Offered Rate (Shibor) and the Loan Prime Rate (LPR). The study emphasizes the critical role of accurate interest rate forecasting for monetary policy, financial stability, and investment decisions in China's dynamic economy. Accurate forecasting of interest rates is crucial for monetary policy formulation, maintaining financial stability, and guiding investment decisions, especially in emerging economies like China, which is undergoing structural reforms and experiencing global economic shifts. Interest rates are a key instrument for central banks to manage inflation, economic growth, and financial stability. As China transitions

towards a market-based monetary policy, forecasting interest rate dynamics becomes increasingly vital for economic planning and risk management. The study evaluates the predictive performance of various models, including univariate models (ARIMA, Naïve), multivariate models (Nonlinear Autoregressive Distributed Lag (NARDL), Vector Error Correction Model (VECM)), and hybrid forecast combination techniques. Macroeconomic variables such as inflation, GDP growth, exchange rate, trade indicators, oil prices, and money supply are incorporated into the models, with rigorous econometric diagnostics applied to ensure validity.

Key findings on model performance include the following:

While individual multivariate approaches, particularly NARDL, effectively capture nonlinearities and long-run relationships, forecast combination strategies generally enhance predictive accuracy and stability. Traditional univariate models like ARIMA and exponential smoothing are effective for short-term predictions, relying on past interest rate data. However, their performance diminishes over longer horizons and they struggle to account for external shocks or macroeconomic interdependencies. The Naïve model serves as a baseline, performing adequately in stable environments but deteriorating during economic turbulence. Models such as VAR, Bayesian VAR, and NARDL integrate macroeconomic variables to capture interdependent economic structures, significantly improving predictive accuracy. NARDL is particularly useful for modeling asymmetric responses to positive and negative shocks. VECM is designed for cointegrated non-stationary time series, capturing both short-term dynamics and long-term equilibrium. The study used Root Mean Squared Error (RMSE) and Mean Absolute Error (MAE) to evaluate model performance. ARIMA (2,1,3) showed better overall forecasting accuracy than the Naïve model, particularly in handling larger errors, despite the Naïve model having a slightly lower MAE. The study concludes that, combining different forecasting models, such as ARIMA, Naïve, NARDL, and VECM, can lead to varying levels of accuracy. The ARIMA + NARDL + VECM combination demonstrated the best overall performance by balancing both large and average prediction errors. For more accurate and reliable forecasting, the ARIMA + NARDL + VECM combination is recommended. (Asadullah, 2025)

Pfauti's study investigates the implications of declining public attention to inflation for monetary policy, especially in the context of an effective lower bound (ELB) on nominal interest rates. It develops a limited-attention model of inflation expectations and empirically quantifies attention levels, finding a significant decline over recent decades. Lower attention weakens the efficacy of make-up policies, such as forward guidance, which aim to influence inflation expectations and steer the real interest rate when the nominal interest rate is constrained by the ELB. This is because agents with lower attention update their expectations less strongly to announced policies, leading to a muted response of inflation and a higher real rate. If agents' attention is low, a decrease in the lower bound (e.g., allowing for negative interest rates) becomes less stimulative for the economy. The effectiveness of negative interest rate policies diminishes as attention

declines, making the optimal increase in the inflation target similar to scenarios without negative rates. Limited attention can lead to 'inflation-attention traps,' characterized by prolonged periods where the nominal interest rate is at the ELB and inflation remains persistently low due to slowly-adjusting inflation expectations. This can hinder inflation from recovering quickly after adverse shocks. In summary, the paper argues that while lower attention to inflation can have some stabilizing effects, it fundamentally alters the landscape for monetary policy, particularly when faced with the effective lower bound. The optimal response involves a higher inflation target, but this comes at a welfare cost, highlighting the critical role of the ELB in assessing the normative implications of public attention to inflation. (Pfauti, 2021)

Diegel & Nautz' study investigates the crucial role of long-term inflation expectations in the monetary transmission mechanism and the conduct of monetary policy, utilizing a structural Vector Autoregressive (SVAR) analysis. It challenges earlier assumptions by demonstrating a significant response of U.S. long-term inflation expectations to monetary policy shocks, highlighting the importance of a 're-anchoring channel'. The study aims to determine if U.S. long-term inflation expectations react to monetary policy shocks in a manner consistent with a re-anchoring channel and to quantify the importance of these expectations for monetary policy's conduct and transmission. A structural VAR framework is employed, incorporating inflation expectations, inflation, the monetary policy rate, and unemployment. This framework allows for the identification of monetary policy shocks and expectations shocks through a minimal set of sign and zero restrictions. The identification of monetary policy (MP) shocks relies on conventional sign restrictions, ensuring that monetary policy's reaction to inflation expectations is not implausible. The response of inflation expectations to MP shocks is left unrestricted, as it is a key object of interest. An expectations shock is also identified, which is used in counterfactual analysis to neutralize the impact of MP shocks on inflation expectations. Contrary to previous studies, the research finds that U.S. long-term inflation expectations respond significantly and immediately to monetary policy shocks. Monetary policy shocks account for 16% of the variation in long-term inflation expectations on impact, indicating a sizable influence on their dynamics. The re-anchoring channel of monetary policy is confirmed, suggesting that monetary policy shocks are transmitted to inflation via long-term inflation expectations. While the response of unemployment to monetary policy shocks is only weakly affected by assuming constant long-term inflation expectations, the effects are much more pronounced for inflation. Long-term inflation expectations contribute to the decrease in inflation for up to a year after a monetary policy shock, with the peak impact occurring after three quarters. This study concludes that long-term inflation expectations play a significant role in the transmission of monetary policy shocks to inflation and are crucial for the conduct of monetary policy. The evidence supports the existence and importance of a re-anchoring channel, where monetary policy's response to expectations shocks helps stabilize inflation and unemployment. (Diegel & Nautz, 2021)

Monetary policy in advanced economies has faced significant limitations due to the secular decline in the equilibrium real interest rate, leading to frequent encounters with the effective lower bound (ELB) on nominal interest rates. This situation has reduced the central banks' ability to lower policy rates during recessions and has prompted a re-evaluation of monetary policy instruments and frameworks to achieve macroeconomic stability. This research paper utilizes the European Central Bank's (ECB) New Area-Wide Model II (NAWM II) to analyze these issues, focusing on the euro area economy. NAWM II is a dynamic, stochastic, general equilibrium (DSGE) model that includes a rich financial sector, accounting for financial frictions, the role of bank lending rates, and the transmission of monetary policy, including large-scale asset purchases. The model allows for stochastic simulations to assess the impact of an occasionally binding ELB constraint on macroeconomic stabilization. When the short-term nominal interest rate is the sole effective monetary policy instrument, the ELB leads to substantial macroeconomic costs. These costs are reflected in negative biases in inflation and economic activity, as well as heightened macroeconomic volatility. The ELB can cause inflation to fall below the central bank's target, resulting in a "negative inflation bias". The ELB also makes the inflation rate more volatile compared to scenarios without the ELB. The output gap experiences a negative bias and increased volatility. The ELB constraint truncates the probability distribution of the short-term nominal interest rate from below, leading to an upward shift in the mean of the policy rate and a decline in its volatility. Nonstandard instruments, such as interest-rate forward guidance and large-scale asset purchases, can mitigate the stabilization costs associated with the ELB, especially when used jointly. The effectiveness of forward guidance is critically dependent on its credibility with the private sector. Credible forward guidance can reduce negative inflation bias and economic volatility, while low credibility significantly mutes these improvements. Asset purchases can enhance the credibility of forward guidance by signaling an accommodative future interest-rate policy. When combined, these instruments can reduce the negative inflation bias and lower inflation volatility. In conclusion, the study demonstrates that the effective lower bound significantly impairs macroeconomic stabilization. However, the central bank can alleviate these distortions through the use of nonstandard instruments like forward guidance and large-scale asset purchases, and even more effectively through make-up strategies such as price-level targeting and average-inflation targeting, provided they are credible and well-understood by the public. (Coenen & Montes-Galdon, 2021)

Auclert's et al. study investigates the macroeconomic effects of energy price shocks in energy-importing economies, focusing on the roles of fiscal and monetary policy responses. It utilizes a heterogeneous-agent New Keynesian model to analyze these complex interactions. The study employs a heterogeneous-agent New Keynesian model, extended to include an energy good, a continuum of energy importers, and a real-wage stabilization motive. This framework allows for a direct link between high energy prices and aggregate demand, which is often absent in standard theoretical models. The model incorporates realistically large marginal propensities to consume (MPCs) and a low elasticity of substitution between energy and domestic goods. These parameters are crucial for

the model to show that energy price increases can lead to depressed real incomes and a recession, even without monetary policy tightening. The research uses the model as a 'laboratory' to evaluate potential monetary and fiscal policy responses to energy shocks, including their distributional effects. The study's key findings are as follows: When MPCs are large and the elasticity of substitution between energy and domestic goods is low, the model demonstrates a direct link where higher energy prices reduce real incomes and cause a recession. Another finding is that imported energy inflation can contribute to wage inflation through a wage-price spiral, especially when nominal and real wage rigidities are present. However, this does not alleviate the decline in real wages. Finally, in a representative-agent model, an energy price shock typically causes an expansion due to consumers substituting away from imported energy. However, in the heterogeneous-agent model, with realistic parameters, the real income effect dominates, leading to a domestic contraction. The paper suggests that an optimal policy mix might involve aggressive, coordinated monetary tightening combined with targeted fiscal relief for vulnerable populations, while crucially avoiding energy price subsidies. (Auclert et al., 2023)

Ruslan's et al. research paper investigates the intricate relationship between monetary policy and inflation in Pakistan, specifically focusing on the effectiveness of interventions by the State Bank of Pakistan (SBP) and identifying key structural constraints to policy transmission, particularly in the post-2020 period. The study employs an extensive literature review and a theoretical framework that integrates the Quantity Theory of Money, the expectations-augmented Phillips Curve, and the concept of Fiscal Dominance. The research aims to disentangle the complex interplay of forces driving inflation in Pakistan, assess the transmission and limitations of monetary policy, and contribute to policy discourse. Inflation in Pakistan is characterized by its complex and multi-causal nature, stemming from both demand-pull and cost-push factors, along with structural rigidities. Excessive money supply growth, primarily fueled by fiscal deficits and government borrowing from the central bank, is a significant demand-pull factor. This phenomenon, known as fiscal dominance, occurs when the central bank's monetary policy is constrained by the government's need to finance substantial fiscal deficits. Some of the cost-push factors are imported inflation, adjustments in regulated utility prices, and supply chain vulnerabilities. Despite reforms aimed at greater autonomy and the adoption of modern policy tools, the SBP's efforts to anchor prices are frequently undermined by a weak and delayed monetary policy transmission mechanism. (Ruslan et al., n.d.)

Coibion's et al. research paper investigates how various forms of central bank communication influence household inflation expectations and subsequent spending decisions. The research utilizes a large-scale randomized controlled trial (RCT) with nearly 20,000 U.S. individuals, providing insights into effective communication strategies for central banks, especially during periods of low interest rates. The study aims to inform academic research and policymakers on effective communication strategies with ordinary people regarding monetary policy and inflation. It specifically examines how different types of information affect consumers' inflation

expectations and spending behaviors. A new large-scale survey was conducted with approximately 20,000 U.S. consumers, significantly larger than previous RCTs in macroeconomics. Participants were exposed to eight different information treatments and a control group. These treatments included providing the actual CPI inflation rate, the Federal Reserve's inflation target, the FOMC's inflation forecast, the full FOMC statement, news articles covering FOMC decisions (e.g., *USA Today*), recent unemployment numbers, and gasoline price inflation. A placebo treatment (U.S. population growth) was also included. As far as data collection is concerned, the survey collected individuals' inflation expectations, demographic characteristics, and spending data. Follow-up surveys were conducted three and six months later to measure the persistence of information effects. Spending data was gathered through self-reported surveys and Nielsen scanner data. The study's key findings on inflation expectations can be summarized as follows:

Providing simple statistics like the most recent inflation rate, the Fed's inflation target, or the FOMC's inflation forecast had statistically and economically significant effects, reducing average household inflation forecasts by 1.0-1.2 percentage points. Reading the full FOMC statement had a similar effect on expectations as simply being told the Fed's inflation target, despite its length and detail. This suggests that complicated, detailed information is not more powerful than simple messages.

News articles summarizing FOMC meetings (e.g., from *USA Today*) had a significantly smaller effect on inflation expectations, reducing them by only about half compared to other inflation-related treatments. This discounting appears to stem from households viewing traditional news media as less credible than other sources. The effects of simple information treatments were mildly persistent, with expectations converging more than halfway to the control group's expectations after three months but fully dissipating within six months. This highlights the need for repeated communication.

While responses were broadly similar across demographic groups, women responded more strongly to most information treatments than men. Middle-income individuals responded more significantly than lower or higher-income individuals. Low-income and less-educated individuals were less likely to incorporate information from news media.

The study concludes that simple, direct communication from central banks can significantly influence household inflation expectations, which in turn affect spending decisions. However, relying on traditional news media to transmit these messages is less effective due to public skepticism. Central banks should develop direct and persistent communication strategies to effectively manage public expectations and enhance their credibility, especially given the widespread lack of public knowledge about monetary policy. (Coibion et al., 2021)

Ruslan's et al. research paper investigates the dynamics of inflation, the level of monetary policy credibility, and output stability's influence on the monetary authority's reaction function in Indonesia, particularly in the post-COVID-19 era.

The study employs a New Keynesian small macroeconomics approach using time series data from January 2021 to April 2022. The primary goal is to analyze how inflation dynamics, credibility, and output stability affect the monetary authority's reaction function. The study utilized time series data from January 2021 to April 2022, while an estimation model based on the New Keynesian Small Macroeconomics model was developed, using the 3SLS (Three-Stage Least Squares) Model estimation to examine the reaction function of monetary policy in Indonesia. The nominal interest rate served as the central bank's primary instrument, incorporating a credibility index into the expected inflation model. The research's key findings are as follows:

- The credibility index of monetary policy converges with macroeconomic variables, indicating that economic agents have a high degree of credibility in Bank Indonesia's monetary policy. The average credibility index for Bank Indonesia's monetary policy during the observation period was between 0.74 and 0.75, exceeding the 0.5 range. This suggests increasing consistency in implementing monetary policy to achieve low and stable inflation, leading to a growing convergence of actual inflation to its objective.
- The central bank's policy to stabilize prices through nominal interest rates directly affects aggregate demand. A decrease in nominal interest rates is expected to increase consumption demand and the output gap. Fiscal policy, through increased government expenditure, also influences output growth.
- The New Keynesian Phillips curve model demonstrates that the model coefficient is significantly different from zero, particularly when demand changes are not immediately responsive to price increases. The study found that the Phillips curve phenomenon exists in the Indonesian economy, implying that entrepreneurs do not immediately respond to demand changes by increasing prices. Consequently, the central bank's policy of reducing nominal or long-term interest rates can increase real output by boosting consumption.
- Inflation is influenced by the rational expectations of economic agents, with a greater weight on backward-looking expectations (0.6813) compared to forward-looking expectations (0.3796). This indicates that inflation behavior in Indonesia was predominantly backward-looking during the Inflation Targeting Lite period but shifted towards forward-looking after adopting Full-Fledged Inflation Targeting, linked to increased central bank credibility.

The study concludes that incorporating a rational expectation variable (forward-looking model) yields superior fit results compared to models that only consider the past. However, economic actors also consider historical data, which reduces the importance of the primary variable. The credibility index is crucial for effective monetary policy implementation, with Indonesia's monetary policy credibility ranging between 0 and 1. The central bank's cautious approach in setting interest rates becomes more anticipatory over time. The model has limitations, including the sensitivity of the Hodrick-Prescott estimate for equilibrium values to econometric models and the need for further development in formulating equilibrium output, interest rates, and inflation. The real exchange rate is still treated as an exogenous variable, suggesting a need to

develop it as an endogenous variable in future research.(Ruslan et al., n.d.)

Guerrieri's et al. study investigates the optimal conduct of monetary policy when economies face asymmetric shocks that necessitate structural reallocation, a condition observed during the Covid-19 crisis. It highlights the challenges posed by uneven shocks where some sectors experience insufficient demand and unemployment, while others face supply constraints and inflationary pressures. The paper characterizes optimal monetary policy in response to asymmetric shocks that shift demand between sectors. Such shocks, like those seen during the Covid-19 crisis, can lead to inflation optimally exceeding its target despite high unemployment. The authors develop a stylized model with two sectors (A and B) that incorporates downward nominal wage rigidities, sticky prices, and costly labor reallocation. Monetary policy influences aggregate demand, affecting both sectors. Key findings without labor reallocation consist of the following: When labor is immobile, an asymmetric shock, combined with downwardly rigid wages, acts as an endogenous cost-push shock. This breaks the 'divine coincidence' (where inflation targeting achieves both price and employment stability) and creates a trade-off for monetary policy, leading to both unemployment and inflation. Optimal monetary policy generally allows for inflation above its target and unemployment above its natural level. Inflation in the expanding sector facilitates relative price adjustment, which is otherwise hampered by downward wage rigidities. The asymmetric shock shifts the aggregate Phillips curve outward, making zero inflation and zero unemployment unattainable. The optimal policy point lies on the downward-sloping portion of this curve, indicating a trade-off.

Key findings with costly labor reallocation consist of the following:

When labor can move between sectors, monetary easing can have the additional benefit of inducing faster reallocation by increasing wages in the expanding sector. Another aspect is the conflicting interests. The model shows two versions: one where expansionary policy stifles reallocation by reducing unemployment in the declining sector, and another where it encourages reallocation by promoting wage inflation in the expanding sector. The dominant effect determines whether monetary policy should be more contractionary or expansionary. The presence of nominal rigidities and unemployment affects workers' decisions to move. Workers may undervalue the social benefits of moving (e.g., easing congestion in the declining sector, reducing inflation in the expanding sector), creating a 'mobility wedge'. In the baseline model with costly price adjustment, an expansionary monetary policy can stimulate reallocation. This is because higher inflation helps wages in the expanding sector rise, providing incentives for workers to move and aiding relative price adjustment. The concern for facilitating sectoral restructuring can lead the monetary authority to adopt a more expansionary stance.(Guerrieri et al., 2021)

Lucchetta's study investigates the complex interactions between U.S. monetary policy, financial stability, macroeconomic variables, and renewable energy consumption, revealing critical trade-offs faced by central

banks in pursuing sustainability objectives. The research aims to analyze the dynamic relationships among the U.S. Federal Funds Rate (monetary policy), financial stability measures (Volatility Index, Economic Policy Uncertainty), macroeconomic indicators (inflation, unemployment), and renewable energy consumption from January 1990 to June 2025. It addresses a gap in literature by extending existing frameworks to include financial stability indicators, moving beyond direct monetary-energy linkages. A vector autoregression (VAR) model is employed, utilizing monthly U.S. time series data. Cholesky identification is applied to disentangle dynamic responses to monetary shocks, with variables ordered as inflation, unemployment, Federal Funds Rate, market volatility, economic policy uncertainty, and renewable energy consumption.

Some of its key findings are:

- Contractionary monetary shocks (increases in the Federal Funds Rate) lead to short-term declines in renewable energy consumption, peaking at a -0.50% drop after one month, before gradually recovering and turning positive in the longer term. This reflects the sensitivity of capital-intensive green investments to higher interest rates.
- Monetary tightening reduces market volatility (VIX decreases by -0.45 points on impact) but increases short-term economic policy uncertainty (EPU rises by 1.11 index points on impact).
- While inflation falls progressively (-0.22% after six months), unemployment modestly increases (+0.04% after six months), highlighting the costs of price stability and market stabilization.
- Federal Funds Rate shocks account for approximately 0.65% of the variance in renewable energy consumption at a 12-month horizon, indicating a notable, albeit modest, influence compared to inflation.
- Robustness checks confirm these findings, and the incorporation of financial development proxies suggests that well-developed financial systems can buffer adverse impacts on green finance.

Generally speaking, the study underscores the dilemma faced by central banks: efforts to stabilize financial markets and curb inflation can inadvertently increase green investment financing costs and hinder sustainable energy transitions. It suggests that central banks should consider integrating climate-related objectives into their frameworks, potentially through green collateral frameworks or targeted monetary instruments. Coordination with fiscal incentives (e.g., subsidies, tax credits like the Inflation Reduction Act) and selective credit controls or macroprudential tools tailored for green finance can help align stability mandates with sustainability goals.(Lucchetta, n.d.)

#### 4. Conclusions

Our literature review study underscores the evolving complexity of monetary policy in both advanced and developing economies. Traditional concerns—such as inflation control, monetary transmission, and central bank independence—remain at the core of scholarly inquiry. However, recent research has broadened the scope, addressing communication strategies, behavioral responses, unconventional policies, and sustainability challenges. It is

evident across institutional contexts that credibility, transparency, and independence are preconditions for effective monetary policy, yet they are variably constrained by political, structural, and external factors. Empirical evidence from developing economies illustrates the persistent vulnerabilities of monetary frameworks in the presence of fiscal dominance, weak financial systems, and external shocks. At the same time, Research in advanced economies points to the limits imposed by the effective lower bound, the mixed effectiveness of unconventional tools, and the necessity of credible forward guidance. A particularly important development is the integration of behavioral and environmental dimensions into the analysis of monetary policy. Research on expectations formation, central bank communication, and public attention illustrates the profound role of informational frictions in shaping policy outcomes. Similarly, studies on climate shocks, energy prices, and green finance highlight new trade-offs for central banks, suggests that monetary policy cannot remain isolated from broader societal challenges. Taken together, our research study suggests that the future of monetary policy will be defined by adaptability and multidimensionality. Central banks must navigate not only the traditional objectives of price and output stability but also credibility, inclusiveness, financial stability, and environmental sustainability. For researchers, the challenge lies in developing theoretical and empirical frameworks that capture these complexities, while for policymakers the imperative is to design strategies that remain effective under conditions of structural change and heightened uncertainty.

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