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Monetary Policy Transmission and Inflation Dynamics under Inflation Targeting in an Emerging Economy

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ABSTRACT

The effectiveness of inflation targeting in emerging economies depends on how strongly and how quickly changes in the policy rate are transmitted to market interest rates, credit, the exchange rate, expectations and, finally, inflation. In economies that have recently moved from a fixed or managed exchange rate and directed lending to a market-based monetary framework, these channels may be weak or distorted. The aim of this study is to assess the structure of the monetary policy transmission mechanism in Uzbekistan, which formally adopted an inflation targeting regime in 2020, and to develop proposals for strengthening it. The study applies a systematic review of theoretical and empirical literature on transmission in emerging and low-income countries, institutional analysis of the monetary framework of the Central Bank of the Republic of Uzbekistan, and a structural vector autoregression framework together with a forward-looking policy rule for future empirical estimation. The analysis shows that the exchange rate and expectations channels play the leading role, whereas the interest rate and credit channels are weakened by dollarisation, a high share of state-directed and subsidised lending, administered prices and shallow financial markets. A channel-strength assessment matrix and a set of measures are proposed, including the phasing out of preferential lending, de-dollarisation, development of the government securities market and improved central bank communication. The results can be used to improve the effectiveness of monetary policy.

KEYWORDS

Monetary policy transmission, inflation targeting, policy rate, exchange rate pass-through, dollarisation, SVAR.

HIGHLIGHTS

- Exchange rate and expectations channels dominate transmission in Uzbekistan.
- Dollarisation and directed lending weaken the interest rate and credit channels.
- An SVAR framework and a channel-strength matrix are proposed for evaluation.

1. Introduction

PRICE STABILITY is the main objective of modern central banks, and inflation targeting has become the dominant monetary policy framework in both advanced and emerging economies. Under this regime, the central bank sets a numerical target for inflation and adjusts its policy rate on the basis of the inflation forecast, relying on the ability of the policy rate to influence aggregate demand and expectations. The success of the regime therefore depends critically on the monetary transmission mechanism.

Uzbekistan has undergone a profound change in its monetary framework. After the liberalisation of the foreign exchange market in September 2017, the Central Bank of the Republic of Uzbekistan (CBU) began a

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transition towards inflation targeting, which was formalised by a presidential decree in 2019 and implemented from 2020 with a medium-term target of 5%. The policy rate became the main instrument, and the CBU introduced an interest rate corridor, regular monetary policy decisions and published forecasts.

At the same time, the economy retains features that complicate transmission: a significant share of loans and deposits in foreign currency, a large role of state-owned banks and of lending at preferential rates through government programmes, regulated prices for energy and utilities, and a relatively shallow money and bond market. Similar conditions in other emerging and low-income economies have been shown to weaken the impact of monetary policy. External shocks, such as the sharp rise in the CBU policy rate to 17% in March 2022 in response to regional turbulence, illustrate how the central bank must rely on the exchange rate and expectations to stabilise inflation.

The aim of this article is to assess the structure of the monetary transmission mechanism in Uzbekistan and to develop proposals for strengthening it. The objectives are: (1) to review the theory and empirical evidence on transmission channels; (2) to analyse the institutional factors that strengthen or weaken each channel; (3) to propose an empirical framework for measuring transmission; and (4) to formulate recommendations for monetary policy.

2. Literature Review

The modern understanding of the transmission mechanism was summarised by Mishkin, who distinguished the interest rate, exchange rate, asset price and credit channels. In the traditional interest rate channel, a rise in the policy rate increases real interest rates, which reduces investment and consumption. Bernanke and Gertler argued that the effect of monetary policy is amplified by the credit channel: tighter policy weakens the balance sheets of borrowers and reduces the supply of bank loans, raising the external finance premium. In open economies, the exchange rate channel is often the fastest. A higher policy rate tends to strengthen the domestic currency, which lowers import prices and reduces inflation through exchange rate pass-through. Calvo and Reinhart showed that emerging economies often show “fear of floating” because of high pass-through and foreign currency liabilities, which limits the flexibility of the exchange rate and increases the importance of this channel. New Keynesian theory emphasises the expectations channel: if the central bank is credible, announced policy and forward guidance shape inflation expectations and thereby current price-setting.

The empirical measurement of transmission is usually based on vector autoregressions, following Sims. Christiano et al. summarised the evidence for the United States: a contractionary monetary shock leads to a hump-shaped decline in output and a delayed fall in prices. For developing countries, Mishra et al. concluded that transmission is generally weaker and less reliable because of small formal financial sectors, limited competition among banks, dollarisation and the lack of central bank independence. The policy rule of Taylor, which links the policy rate to the inflation and output gaps, is widely used to describe and evaluate the reaction of central banks.

Studies of Uzbekistan and other Central Asian economies remain relatively few, partly because of the short history of market-based monetary policy. Most available analysis is contained in the publications of the CBU and the International Monetary Fund. The present study contributes by systematically assessing each transmission channel in the institutional context of Uzbekistan and by proposing a framework for its empirical evaluation.

3. Materials and Methods

The study is based on a combination of institutional analysis and an econometric framework. The information base includes the monetary policy documents of the CBU, legislative acts of the Republic of Uzbekistan and peer-reviewed literature on monetary transmission.

3.1. *Structural VAR framework*

To measure the transmission of monetary policy to inflation, a structural vector autoregression model is proposed. In reduced form, the model is written as Eq. (1):

$$Y_t = c + \Sigma_{i=1..p} A_i Y_{t-i} + B \cdot X_t + u_t \quad (1)$$

where Y_t is the vector of endogenous variables - the real output gap, consumer price inflation, the interbank interest rate, the nominal effective exchange rate and the volume of bank credit - X_t is the vector of exogenous variables, A_i and B are coefficient matrices, p is the lag length and u_t are reduced-form residuals. Structural shocks are identified through a recursive ordering or sign restrictions, which assume that a contractionary monetary shock raises the interest rate and does not increase inflation on impact. Impulse responses and variance decompositions show the speed and strength of each channel.

3.2. *Policy reaction function and pass-through*

The reaction of the central bank is described by a forward-looking rule with interest rate smoothing, shown in Eq. (2):

$$i_t = \rho i_{t-1} + (1 - \rho)[r^* + \pi^* + \varphi_\pi(E_t\pi_{t+h} - \pi^*) + \varphi_y \tilde{y}_t] + \varepsilon_t \quad (2)$$

where i_t is the policy rate, r^* is the neutral real rate, π^* is the inflation target, $E_t\pi_{t+h}$ is the expected inflation h quarters ahead, $\tilde{y}_t$ is the output gap, ρ is the smoothing parameter and $\varphi_\pi > 1$ is required for the Taylor principle to hold. Exchange rate pass-through to consumer prices is estimated by Eq. (3):

$$\Delta p_t = \alpha + \Sigma_{k=0..q} \gamma_k \Delta e_{t-k} + \delta \tilde{y}_t + \theta \Delta p^*_t + \varepsilon_t \quad (3)$$

where Δp is consumer price inflation, Δe is the change in the exchange rate, Δp^* is foreign inflation, and the sum of γ_k measures the long-run pass-through coefficient.

4. Results

The institutional analysis allowed each channel of the transmission mechanism in Uzbekistan to be assessed in terms of its relative strength and the main factors that limit it. The results of the assessment of individual channels are summarised in Table 1. The assessment is qualitative and is based on structural characteristics of the financial system rather than on estimated coefficients; it is intended to formulate hypotheses for the empirical model in Section 3.

Table 1. Assessment of the strength of monetary transmission channels in Uzbekistan

Channel	Strength	Supporting factors	Constraining factors
Interest rate	Moderate	Policy rate corridor; developing interbank market; market-based deposit rates	Preferential and state-programme loans; dominance of state banks; shallow money market
Credit	Moderate	Rapid growth of retail lending; prudential and macroprudential tools	Loans at subsidised rates; foreign-currency loans; collateral-based lending
Exchange rate	Strong	High share of imports in consumption; flexible exchange rate since 2017	Interventions related to gold sales; remittance-driven currency flows
Expectations	Growing	Regular policy decisions, published forecasts and press releases	Short track record of targeting; adaptive household expectations
Asset price	Weak	Gradual development of the stock and bond markets	Small market capitalisation; limited household holdings of securities

Table 1 shows that the exchange rate channel is likely to be the strongest and fastest. Because a large share of consumer goods, equipment and intermediate inputs is imported, changes in the exchange rate are quickly passed through to prices. The expectations channel is growing in importance as the CBU builds a track record and expands communication, but household expectations still tend to follow past inflation, which slows the disinflation process. The interest rate and credit channels are constrained by structural factors. When a substantial part of loans is issued at preferential rates through government programmes or is denominated in foreign currency, changes in the policy rate affect only part of the credit market, which forces the central bank to make larger changes in the rate to achieve the same effect on demand. Administered prices for energy and utilities create periodic inflation shocks that are outside the direct control

of monetary policy and can affect expectations. Based on this assessment, measures were developed to strengthen each channel (Table 2).

Table 2. Measures to strengthen the monetary transmission mechanism

Direction	Measure	Expected effect
Interest rate channel	Phase out preferential lending or move its subsidies to the budget transparently	Larger share of credit priced from the policy rate
Credit channel	Accelerate privatisation of state banks and increase competition	Faster pass-through of the policy rate to loan rates
De-dollarisation	Differentiated reserve requirements and deposit insurance limits by currency	Higher share of national-currency deposits and loans
Financial markets	Regular issuance of government securities across maturities; yield curve development	Benchmark rates for pricing long-term loans
Expectations	Forward guidance, publication of the policy rate path, surveys of inflation expectations	Anchoring of expectations around the target
Policy coordination	Predictable schedule for adjusting administered prices; fiscal–monetary coordination	Fewer supply-side inflation shocks

5. Discussion

The results are consistent with the evidence for emerging and low-income economies, where the exchange rate channel tends to dominate and the interest rate and credit channels are weaker. They also support the argument of Calvo and Reinhart that high pass-through makes exchange rate movements a central concern of monetary policy in such economies. For Uzbekistan, this means that the CBU must pay particular attention to the exchange rate and expectations in the short run, while working with the government to remove structural constraints that weaken the interest rate channel in the medium run. An important implication concerns preferential lending. Credit at subsidised rates may support specific sectors, but it reduces the share of the economy that responds to the policy rate and can push the central bank to keep rates higher than otherwise necessary. Moving such support to transparent budget subsidies would separate fiscal and monetary functions, in line with the principles of inflation targeting.

The proposed structural vector autoregression framework and policy rule in Eqs. (1)-(3) provide a basis for testing these conclusions. A finding of high and fast exchange rate pass-through, together with a weak response of credit to policy rate shocks, would confirm the hypotheses in Table 1. Estimates of the reaction coefficient φ_π would also show whether the policy rate responds strongly enough to expected inflation to satisfy the Taylor principle. The study has limitations. The assessment of channel strength is qualitative, and the econometric estimation is constrained by the short time series available since the adoption of inflation targeting, which also includes several large external shocks. As more data accumulate, the framework should be estimated with methods that allow for structural breaks.

6. Conclusion

The effectiveness of inflation targeting in Uzbekistan depends on strengthening the monetary transmission mechanism. The analysis shows that the exchange rate and expectations channels currently play the leading role, while the interest rate and credit channels are limited by dollarisation, preferential state-directed lending, the dominance of state banks, administered prices and shallow financial markets. To improve transmission, it is recommended to phase out preferential lending or make its subsidies transparent in the budget, accelerate the privatisation of state banks, reduce dollarisation through differentiated prudential requirements, develop the government securities market as a source of benchmark rates, and improve central bank communication through forward guidance and regular surveys of inflation expectations. Better coordination of administered price adjustments with monetary policy would reduce supply-side shocks.

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Future research should estimate the proposed structural vector autoregression and pass-through models on quarterly data, compare the results with other inflation-targeting economies in the region, and analyse how the transmission mechanism changes as financial markets deepen.

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** Required for all submissions.*

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