

THEORETICAL ISSUES CONCERNING THE IMPACT OF CENTRAL BANK INDEPENDENCE ON MONEY MARKET OPERATIONAL EFFICIENCY

Le Minh Tam¹

Received 17.02.2026.

Revised 21.04.2026.

Accepted 21.05.2026.

Keywords:

Central Bank Independence, Money
Market Operational Efficiency,
Monetary Policy, Transmission
Channel.

ABSTRACT

This article clarifies the theoretical foundations of the impact of central bank independence on money market operational efficiency. Drawing on theories of policy commitment, credibility, expectations, the delegation of monetary policy authority, and monetary-fiscal constraints, the article argues that central bank independence is not only relevant to price stability or inflation control but also directly affects the functioning of the money market. Money market operational efficiency is approached through several criteria: the ability to keep the overnight rate close to the target level, the smooth pass-through to other short-term interest rates, market liquidity, market depth, transaction costs, and resilience to shocks. The article systematizes the main channels through which central bank independence affects money market operations, including the commitment-credibility channel, expectations-management channel, instrument autonomy and operational quality channel, transparency-communication channel, fiscal-dominance-mitigation channel, and market-fragmentation-reduction channel. On this basis, the article emphasizes the need to further develop a multidimensional analytical framework, distinguish between legal and de facto independence, and incorporate boundary conditions such as fiscal discipline, exchange-rate pressure, and market depth into empirical research.



© 2026 Global Economic Horizons

1. INTRODUCTION

In a modern market economy, the money market is not merely a venue for short-term funding transactions; it is also the first point of contact for the monetary policy transmission mechanism. Overnight and interbank interest rates usually respond most rapidly to central bank signals and operations, and then transmit to the broader short-term interest-rate structure and the liquidity conditions of the banking system. Therefore, when the money market operates inefficiently, when short-term rates deviate from the intended policy stance, when abnormal volatility persists, and when liquidity becomes

fragmented, policy signals are distorted, the transmission mechanism is impaired, and the cost of macroeconomic stabilization increases.

At the same time, modern monetary theory views central bank independence (CBI) as an institutional arrangement that enables the central bank to pursue monetary stability consistently while minimizing the extent to which it is influenced by short-term political and/or fiscal priorities. The theoretical substance of CBI has been shaped by several major streams of thought, including the commitment and expectations problem, the delegation mechanism for enhancing credibility, and the intertemporal monetary-fiscal constraint. In the context

¹ Corresponding author: Le Minh Tam
Email: tamueb2026@gmail.com

of modern policy implementation, CBI is not merely a matter of independence on paper; it is closely associated with credibility, predictability, and the quality of operational implementation, all of which determine whether market interest rates remain aligned with policy signals.

However, a review of the literature suggests an important gap: most discussions on CBI tend to focus on final macroeconomic outcomes, such as growth, inflation, price stability, and fiscal deficits, whereas the operational link, namely money market operational efficiency, has not been fully explained and systematized at the theoretical level. Yet the money market is precisely the venue where the day-to-day steering capacity of monetary policy is most clearly revealed. This is reflected in the central bank's ability to control the overnight rate around the target level, the smoothness of pass-through to other money market rates, and the micro-level quality of the market, including liquidity, depth, transaction costs, and resilience to shocks. If the analysis stops at the proposition that CBI reduces inflation, an important layer of mechanism is overlooked: CBI affects the money market through credibility and expectations, through the quality of operational instruments such as open market operations (OMOs), interest-rate corridors, and reserve requirements, and through the ability to avoid being redirected by non-professional external pressures. These mechanisms help short-term rates adhere more closely to policy signals and become less noisy.

Against this background, this article addresses the central research question: from a theoretical perspective, how does CBI affect money market operational efficiency, and what issues arise when constructing an analytical framework for this relationship? This question is developed in three directions: (i) standardizing the concept of CBI according to its key dimensions, including instrument, financial, personnel, governance, goal, and policy independence; (ii) clarifying the concept of money market operational efficiency according to the main pillars recognized in the relevant literature, such as overnight-rate control, transmission channels, system-wide liquidity, market depth, and resilience; and (iii) systematizing the channels through which CBI affects operational efficiency, including credibility, expectations, transparency, communication, operational quality, and boundary conditions such as fiscal constraints and market fragmentation.

The article is structured into three main parts: (i) problem statement and research motivation; (ii) development of the theoretical framework and discussion of issues arising along three axes: central bank independence, money market operational efficiency, and the mechanisms through which CBI affects money market operational efficiency; and (iii) synthesis of the theoretical issues, including remaining debates, boundary conditions that may alter the impact, and suggestions for improving the analytical framework for empirical research and policy implications.

2. THEORETICAL FRAMEWORK

2.1. Central Bank Independence

In economics, central bank independence is understood as an institutional design that enables the central bank to pursue monetary stability consistently while minimizing the possibility of being influenced by short-term political and/or fiscal priorities. The theoretical substance of CBI is primarily formed by three streams of thought: (i) the commitment and expectations problem in monetary policy; (ii) the delegation mechanism and the organization of the state-central bank relationship to build credibility; and (iii) the intertemporal monetary-fiscal constraint, whereby fiscal discipline determines the degree of practical autonomy in monetary policy implementation.

It is important, however, to clarify how this article uses the concept of CBI. The concept is not treated here as a recommendation for complete institutional separation between the central bank and the government. In the international literature, CBI is usually examined as a matter of degree and institutional design. Different dimensions, including goal independence, instrument independence, financial independence, personnel and governance arrangements, and independence in policy implementation, can vary across legal and political settings. This distinction is particularly relevant for economies in which the central bank operates within a broader state policy framework. The relevant issue is not whether the central bank should stand outside that framework, but which dimensions and degrees of independence can strengthen policy credibility, improve the quality of implementation, and support money market operational efficiency (Grilli et al., 1991; Cukierman et al., 1992; Debelle and Fischer, 1994; Romelli, 2024).

First, CBI is often explained through the problem of rules versus discretion and time inconsistency. Kydland and Prescott (1977) show that, in an environment of rational expectations, an optimal policy plan at the planning stage may become suboptimal at the implementation stage because policymakers have incentives to adjust after the private sector has formed expectations. The key point is that discretionary policy can easily lead to time inconsistency, thereby reducing policy effectiveness. As a result, institutional mechanisms that enforce commitment become necessary, and CBI is viewed as a form of institutional discipline that limits changes driven by short-term objectives.

Barro and Gordon (1983) further clarify the inflation-bias mechanism under discretionary policy by modeling the incentive to generate surprise inflation to push output and employment above their natural levels in the short run. Once the private sector understands this incentive, expectations adjust; the short-run benefit disappears, while average inflation remains higher than optimal. Thus, the central issue in monetary policy is not merely choosing the instrument, but ensuring that policy is credible and expectations are anchored. On this basis, CBI is interpreted as a mechanism that strengthens the credibility of monetary policy commitments.

Building on the foundations of credibility and expectations, Rogoff (1985) develops the argument for delegating authority to a more independent or more conservative central bank, in the sense that it places greater weight on price stability. When the central bank has a strong anti-inflation orientation, the private sector adjusts expectations in the belief that the central bank is less likely to pursue short-term stimulus. This reduces inflation bias without necessarily creating large long-run output losses. In this view, independence is not merely formal independence; it is a sufficient degree of separation from short-term political incentives to create credibility.

Another important approach places the relationship between the government and the central bank in a principal-agent framework. Walsh (1995) emphasizes that society and the government act as the principal, while the central bank acts as the agent. The key issue is to design incentive mechanisms that lead the central bank to choose policies close to the social optimum. The optimal contract or Walsh contract is essentially a mechanism of constraints or incentives associated with the policy objective, aimed at eliminating the inflation bias of discretionary policy while still allowing appropriate responses to shocks. An important implication is that effective independence is usually accompanied by accountability and goal constraints, rather than complete detachment from the political system.

However, independence does not mean rigidity. Lohmann (1992) emphasizes the trade-off between credibility and flexibility. If commitment is too rigid, policy may lose flexibility in the face of large shocks. Therefore, an optimal design gives the central bank sufficient independence to create credibility under normal conditions, while allowing an escape clause in extreme situations, provided that intervention entails institutional costs and cannot be used arbitrarily. From this perspective, the optimal degree of independence can also be understood in terms of how difficult and costly it is for political actors to override monetary-policy decisions, thereby preserving credibility without immobilizing policy during crises.

From these debates, economists have moved toward a standardized distinction between goal independence and instrument independence. Debelle and Fischer (1994) argue that the final objective reflects society's trade-off between price stability and output stability and therefore should not be entirely determined by the central bank. Instead, the objective should be clearly defined, often at the legal or political-delegation level, so that the central bank can be held accountable. By contrast, the central bank needs instrument independence to choose and operate instruments such as interest rates, open market operations, and corridors to achieve the assigned objective. Fischer (1995) further emphasizes that, within a principal-agent framework, the central bank may not be goal-independent but must be instrument-independent; otherwise, policy implementation is likely to be distorted

by political intervention, weakening credibility and stabilization effectiveness.

A dimension inseparable from CBI is the monetary-fiscal constraint. Sargent and Wallace (1981) famously argue that the central bank may be unable to control long-run inflation without "fiscal backing". If the government pursues unsustainable deficits or debt, the burden of adjustment may be shifted to the central bank through money creation or other forms of financing, thereby eroding the objective of price stability. Leeper (1991) systematizes this interaction through the distinction between "active" and "passive" monetary and fiscal regimes. Macroeconomic stability depends on whether the two policies operate in a mutually consistent configuration; when fiscal policy is active and monetary policy is forced to be passive, the central bank's operational independence declines. This shows that central bank independence is not only a question of political independence but also a matter of the state's intertemporal budget discipline.

Following these theoretical foundations, subsequent research has developed institutional descriptions and measures of CBI. Grilli, Masciandaro, and Tabellini (1991) distinguish between political and economic independence, emphasizing provisions on appointment and dismissal, objectives, limits on government financing, and control over instruments. Cukierman (1992) synthesizes theory and practice on central bank strategy, credibility, and independence. Cukierman, Webb, and Neyapti (1992) develop measures of central bank independence and emphasize that legal independence and actual independence may produce different signals, particularly in developing economies. Alesina and Summers (1993) provide comparative evidence for OECD countries, showing that countries with more independent central banks tend to be associated with lower and more stable inflation, thus reinforcing the position of CBI as an important institutional feature in policy analysis.

Finally, the modern approach extends CBI by linking it to transparency and accountability as conditions that give independence legitimacy and allow it to operate through the expectations channel. Geraats (2002) reviews the theory of central bank transparency and highlights two categories of effects: uncertainty effects and incentive effects, the latter working through behavioral discipline and credibility enhancement. Eijffinger and Geraats (2006) treat transparency as a multidimensional construct and classify it into five categories: political, economic, procedural, policy, and operational transparency. This helps make the relationship "independence → credibility → market expectations" more coherent when moving toward an analysis of money market operational efficiency.

In summary, at the theoretical level, CBI can be conceptualized as: (i) a commitment mechanism that reduces inflation bias and anchors expectations (Kydland and Prescott, 1977; Barro and Gordon, 1983); (ii) a mechanism of delegation and incentive design that enhances credibility while preserving flexibility in the

face of shocks (Rogoff, 1985; Walsh, 1995; Lohmann, 1992); (iii) a principle of distinguishing goals from instruments to ensure legitimacy and implementation effectiveness (DeBelle and Fischer, 1994; Fischer, 1995); and (iv) a state of autonomy conditioned by fiscal discipline (Sargent and Wallace, 1981; Leeper, 1991).

2.2. Money Market Operational Efficiency

In economics, the money market is commonly understood as the space in which short-term financial instruments are traded, with maturities ranging from very short terms to less than one year. Depending on each country's market structure, it may include unsecured interbank markets, secured markets such as repo and reverse repo, Treasury bills, commercial paper, certificates of deposit, and other instruments close to money in function. The core role of the money market is to allocate short-term liquidity, form benchmark short-term interest rates, and, more importantly, serve as the first point of contact for the monetary policy transmission mechanism, because overnight and interbank rates usually respond most rapidly to central bank signals and operations.

In modern research, money market operational efficiency does not simply mean that the market has transactions. Rather, it refers to the extent to which the market performs its economic functions well and aligns with the central bank's operational framework. This concept can be systematized into four theoretical and empirical pillars as follows.

First, operational efficiency can be understood as policy implementation effectiveness. An influential approach regards the overnight rate as the operational target because it is the variable most directly controllable by the central bank in the short run through reserve supply and operational instruments. From this perspective, operational efficiency is assessed by the ability to keep the market overnight rate close to the announced target, with small deviations, short-lived misalignments, and contained volatility. Ennis and Keister (2008) directly describe the mechanism through which reserve supply is adjusted to bring the overnight rate back to the target. Nautz and Scheithauer (2010) and related studies emphasize that target adherence and the speed with which deviations are eliminated are key criteria, because persistent deviations weaken policy signals and distort transmission.

Second, operational efficiency is associated with the operational framework and the interest-rate corridor. To control the overnight rate, many central banks use an interest-rate corridor or variants such as floor systems or ample-reserves frameworks. In principle, the corridor is formed by an upper bound, such as the marginal lending rate, and a lower bound, such as the deposit rate. OMOs and reserve requirements shape liquidity conditions so that the market rate forms around the target. The ECB (2012) considers open market operations, standing facilities, and reserve requirements to be the three central components of monetary policy implementation. Bindseil and Fotia (2021) emphasize that monetary

policy implementation is primarily the technique of steering short-term interest rates through liquidity management. However, Whitesell (2006) notes that although the corridor helps anchor rates within a range, intra-corridor volatility may still be significant if reserve-supply forecasts are inaccurate or if the demand curve for reserves is steep. Therefore, operational efficiency does not simply mean having a corridor, but rather designing and operating it precisely enough to achieve both target adherence and stability.

Third, operational efficiency can be understood as the effectiveness of transmission within the money market. If the first pillar emphasizes the overnight rate's adherence to the target, the next step is whether central bank signals and operations pass smoothly to other money market rates, such as repo rates, Treasury bill rates, certificate-of-deposit rates, and commercial paper rates. Woodford (2003) emphasizes the role of expectations management: the key issue is not merely controlling a single interest rate at one point, but ensuring that the market forms consistent expectations about the path of policy, so that the term structure of interest rates responds in an orderly manner. In terms of measurement, Duffie and Krishnamurthy (2016) suggest using interest-rate dispersion as an indicator: when transmission is smooth, rates with similar maturities and risk profiles should not be excessively dispersed. High dispersion reflects transmission frictions, market fragmentation, or limited access to liquidity. Analyses by the ECB (2023) use a similar intuition: high dispersion is a sign of market fragmentation, meaning that a single policy rate does not flow evenly to all participants. Hence operational efficiency is not only about average levels but also about the relative uniformity of short-term funding conditions across the system.

Fourth, operational efficiency can be assessed from the microstructure perspective of market liquidity, transaction costs, and resilience. In addition to the logic linking policy operations and transmission channels, the money market is evaluated by micro-level functions such as liquidity, market depth, transaction costs, and resilience to shocks. This approach is associated with decentralized-market and search-friction models, in which interest rates may reflect search frictions, information asymmetries, counterparty risk, and balance-sheet constraints. Duffie, Gârleanu, and Pedersen (2006) emphasize that search frictions can create pricing differences among transactions that appear otherwise similar. Bech and Monnet (2015) show that prices, volumes, and volatility in the interbank money market can be modeled simultaneously under a search mechanism. Anbil and Senyuz (2022) further suggest that regulation and changes in the operational framework may shift activity across segments, thereby changing liquidity and trading relationships in the repo market. This implies that operational efficiency is also shaped by intermediary structure and the regulatory environment.

In summary, the above approaches allow money market operational efficiency to be conceptualized in three broad layers: (i) the central bank's ability to keep the overnight

rate around the target level, with contained deviations and volatility; (ii) the smooth transmission from the target rate to other money market rates, as reflected in low dispersion and limited fragmentation; and (iii) the micro-level quality of the market, including liquidity, depth, transaction costs, and resilience in the presence of frictions and constraints.

2.3. Mechanisms Through Which Central Bank Independence Affects Money Market Operational Efficiency

By nature, the money market, especially very short-term interest-rate segments such as overnight and one-week markets, is both the first transmission channel of monetary policy and the segment that reflects the central bank's capacity to steer interest rates and manage liquidity. Therefore, CBI affects money market operational efficiency not only through inflation or growth objectives but mainly through credibility, predictability, and the quality of operational implementation, including OMOs, the interest-rate corridor, reserve requirements, lending facilities, and deposit facilities. These elements help market rates align with policy signals and reduce noise.

(1) *The commitment-credibility channel reduces inflation bias, stabilizes expectations, and supports the path of short-term interest rates.* The foundation of this mechanism begins with the time-inconsistency problem. When the central bank is subject to short-term pressures, policy is more likely to change after the private sector has formed expectations, thereby weakening credibility and increasing the cost of nominal stabilization (Kydland and Prescott, 1977). Barro and Gordon (1983) model this mechanism clearly: discretionary policy creates incentives to generate surprise inflation, but once the market understands such incentives, expectations adjust, short-run benefits disappear, and average inflation rises above the optimal level. On this basis, CBI is viewed as a mechanism that strengthens commitment, thereby enhancing credibility and reducing the policy-risk premium embedded in short-term interest-rate expectations. Rogoff (1985) emphasizes the role of delegating authority to a more independent or conservative central bank in strengthening anti-inflation credibility. Lohmann (1992) adds that the optimal design must balance credibility and flexibility, meaning that independence must be strong enough to create credibility under normal circumstances while still allowing costly intervention in extreme shocks. The direct implication for the money market is that, when credibility is higher, expectations about the policy-rate path become more stable, overnight and short-term rates exhibit fewer abnormal fluctuations, and deviations from the intended policy stance tend to be corrected more quickly.

(2) *The expectations-management channel increases the effectiveness of policy signals in money market interest-rate pricing.* In the New Keynesian framework, policy effectiveness does not lie only in controlling the overnight rate at a single point; it lies primarily in managing market expectations about the path of interest

rates and monetary conditions. Woodford (2003) emphasizes the central bank's role in expectations management: when the market understands and trusts the policy reaction function, interest rates and expectations form more orderly patterns. In this context, CBI is an institutional condition that makes policy signals credible. When monetary-policy decisions are less influenced by short-term incentives, the market prices according to a more consistent policy-reaction logic. As a result, the transmission from the policy rate to short-term market rates becomes smoother, while dispersion and segmentation are reduced.

(3) *The instrument-autonomy and operational-quality channel enhances the capacity to manage liquidity and anchor the overnight rate.* While the channels in (1) and (2) emphasize credibility and expectations, the mechanism closest to the money market is instrument autonomy and the quality of the operational framework. Debelle and Fischer (1994) distinguish between goal independence and instrument independence, emphasizing that the state should set objectives to ensure accountability, while the central bank needs instrument independence to choose and operate the means necessary to achieve those objectives. Fischer (1995) further argues in a principal-agent framework that the central bank may not be goal-independent but must be instrument-independent; otherwise, policy implementation is distorted by political intervention. In practice, to keep the overnight rate close to target, the central bank must forecast and neutralize autonomous liquidity factors, design OMOs, standing facilities, and a suitable corridor. Ennis and Keister (2008) describe the mechanism of adjusting reserves to bring the overnight rate back to the target; Bindseil (2014) systematizes the role of instruments and liquidity management in the operational framework. Therefore, CBI, especially instrument independence, improves money market operational efficiency by enabling decisions that are appropriate in size and timing, reducing implementation lags, and limiting administrative intervention in the pricing of short-term funds.

(4) *The transparency - communication channel reduces uncertainty and speculation and narrows pricing dispersion.* Transparency and policy communication are complementary mechanisms that allow independence to work effectively. Geraats (2002) reviews the theory of transparency and emphasizes two types of effects: uncertainty effects, through information provision, and incentive effects, through behavioral discipline and credibility enhancement. Eijffinger and Geraats (2006) treat transparency as a multidimensional construct, including political, economic, procedural, policy, and operational transparency. This shows that transparency can be described systematically and is not merely a slogan. When CBI is higher, communication tends to be more consistent and less distorted by short-term pressures; market disagreement over forecasts declines, speculation based on rumors is reduced, and short-term interest rates become less volatile than they otherwise

would be. Spreads across segments or institutions also narrow.

(5) *The fiscal-dominance-mitigation channel limits distortions in liquidity and interest-rate signals.* Fiscal dominance is a major source of disruption to money market operational efficiency. Sargent and Wallace (1981) show that the central bank may be unable to control long-run inflation without fiscal backing; unsustainable deficits and debt push the burden of adjustment onto the central bank through money creation or indirect financing, thereby eroding price stability. Leeper (1991) systematizes this interaction through the active-passive regime classification; when fiscal policy is active and monetary policy is forced to be passive, de facto independence declines. In the money market, fiscal dominance distorts liquidity and interest-rate management by linking them to public-financing needs, increasing volatility and risk premia while weakening the anchor for short-term rates. Thus, CBI, especially financial independence and constraints on budget financing, helps ensure that the money market operates on the basis of capital-flow and interest-rate management rather than being dominated by non-monetary objectives.

(6) *The channel of reducing fragmentation and improving transmission efficiency lowers dispersion and makes funding conditions more uniform.* In modern money markets, an important criterion of operational efficiency is the extent to which short-term funding conditions flow evenly across the system.

transmission due to frictions and fragmentation. Analyses by the ECB (2023) similarly suggest that high dispersion is a sign of market fragmentation, meaning that a policy rate does not transmit evenly. In this channel, CBI does not automatically eliminate fragmentation, but it creates conditions for the central bank to pursue micro-level reforms consistently: standardizing the operational framework, improving signal quality, and intervening in a timely manner when the system is under stress. These measures reduce dispersion, increase the relative uniformity of funding conditions, and improve money market operational efficiency.

In summary, the mechanism through which CBI affects money market operational efficiency can be conceptualized as the following chain (Table 1): CBI → (credibility and commitment; expectations management; instrument autonomy and operational quality; transparency and communication; mitigation of fiscal dominance) → (better alignment of the overnight rate with policy direction, lower volatility, lower dispersion, stronger liquidity, and greater resilience).

2.4. Research Propositions

Based on the theoretical framework above, several research propositions can be derived for further analyses of the relationship between central bank independence and money market operational efficiency.

Proposition 1: The higher the degree of CBI, the better the central bank’s ability to control the overnight rate around the target level, through the credibility and instrument-autonomy channels. Central bank independence, especially instrument independence and independence in policy implementation, can improve the effectiveness of short-term interest-rate control by strengthening commitment credibility, reducing short-term intervention, and helping the overnight rate adhere more closely to the intended policy stance. In other words, when the central bank has sufficient autonomy to choose and operate policy instruments, interest-rate signals are transmitted more clearly, deviations from the target tend to narrow, and short-term interest-rate volatility can be better contained.

Proposition 2: The impact of CBI on money market operational efficiency is mediated by transparency, policy communication, and the degree to which expectations are anchored. The effect of CBI is not only direct; it is also transmitted through mediating mechanisms such as policy transparency, communication quality, institutional credibility, and the anchoring of market expectations. An independent central bank that lacks transparency or communicates inconsistently may still fail to produce high operational efficiency, because markets may misprice policy signals, overreact, or form dispersed expectations. Therefore, transparency and policy communication should be treated as important complementary conditions that transform institutional independence into actual operational efficiency.

Proposition 3: Fiscal dominance weakens the positive effect of CBI on money market operational efficiency.

Table 1. Framework of the Impact of CBI on Money Market Operational Efficiency

CBI Dimension	Impact Channel	Manifestation in the Money Market
Goal independence	Greater consistency of the policy stance	Market participants form more stable expectations about the interest-rate path
Instrument independence	Operational quality, OMOs, and the interest-rate corridor	The overnight rate stays closer to the target
Financial independence	Mitigation of fiscal dominance	Liquidity is less distorted by government financing needs
Personnel and governance independence	Stronger credibility and policy consistency	Lower policy-risk premia
Transparency and accountability	Expectations management and reduced uncertainty	Lower volatility and lower dispersion of interest rates
Implementation independence	Reduced short-term intervention	Stronger transmission efficiency

Source: Author’s synthesis.

Duffie and Krishnamurthy (2016) propose measuring pass-through efficiency by interest-rate dispersion across segments; higher dispersion reflects inefficient

Fiscal dominance occurs when monetary policy is placed under pressure to finance the budget, support public-debt issuance, or maintain low borrowing costs for the government. In such a context, even if the central bank has a certain degree of nominal independence, interest-rate and liquidity management may still be distorted by fiscal needs. This weakens policy signals, increases short-term interest-rate volatility, and prevents CBI from fully translating into actual money market operational efficiency. Fiscal discipline and a sound monetary-fiscal coordination mechanism are therefore important conditions for central bank independence to become effective.

Proposition 4: Money market depth and the degree of market fragmentation are boundary conditions that determine the extent to which CBI is transformed into actual operational efficiency. Market depth reflects transaction volume, the number of participants, the diversity of instruments, and the availability of liquidity. When the market is sufficiently deep, central bank policy signals, such as the policy rate and open market operations, can transmit more rapidly and evenly to segments such as the interbank market, repo market, Treasury bills, and certificates of deposit. Conversely, when the market is fragmented, different groups of banks, maturities, or trading segments may respond differently to the same policy signal, thereby increasing interest-rate dispersion and weakening transmission. Therefore, CBI can exert its full effect only when accompanied by a sufficiently deep, well-connected, and less fragmented money market.

3. THEORETICAL ISSUES AND RESEARCH IMPLICATIONS

From the theoretical framework on CBI, money market operational efficiency, and the channels of impact presented above, several issues require further discussion and clarification when studying the relationship CBI → money market operational efficiency. Specifically:

First, the concept of CBI needs to be standardized in a multidimensional way and should distinguish between independence on paper and independence in implementation. The literature shows that CBI is not a single concept but includes many dimensions: instrument independence; goal and policy independence; personnel and governance independence; and financial independence. Each dimension may affect the money market differently. At the same time, legal independence and de facto independence may send different signals, especially in developing economies. Without clear distinction and measurement, conclusions about the impact of CBI may easily mix mechanisms, leading to errors in interpretation or policy design.

Second, money market operational efficiency should be defined in terms of implementation and transmission rather than being equated with overall macroeconomic stability. Operational efficiency is determined by the ability to control the overnight rate around the target

level, the speed with which deviations are eliminated, the smooth transmission to other money market rates as reflected in low dispersion and limited fragmentation, and the micro-level quality of the market, including liquidity, depth, transaction costs, and resilience. If the analysis uses only final macroeconomic outcome variables such as inflation or growth, it overlooks the operational link through which policy actually enters the market.

Third, the channels of impact are conditional and depend strongly on the operational framework and market structure. CBI may strengthen credibility and operational quality, but the degree to which these are transformed into money market outcomes depends on the design of the operational framework and the interest-rate corridor, the reserve mechanism, standing facilities, the quality of liquidity forecasting, the degree of fragmentation, and market depth. A key issue, therefore, is to incorporate boundary conditions, such as market depth, fragmentation, and exchange-rate pressures, into the analytical framework. Otherwise, the impact of CBI may be misjudged as unusually strong or weak simply because contexts differ.

Fourth, transparency, communication, credibility, and expectation anchoring are key mediating mechanisms but are difficult to measure directly. The literature shows that transparency reduces uncertainty and strengthens credibility, while credibility enables markets to move ahead in line with policy direction. However, these two dimensions usually manifest through market expectations and pricing behavior and are not always directly observable using public data. Therefore, a methodological issue is how to choose appropriate measurement strategies, including direct quantitative measures, suitable proxy indicators, or expert surveys, while controlling for common method bias when using self-reported data.

Fifth, monetary-fiscal constraints may disrupt the transmission channel from CBI to the money market. If fiscal policy generates prolonged financing pressure, the central bank may be forced to prioritize fiscal support objectives, weakening interest-rate signals and distorting liquidity. In such cases, even when CBI is legally established, de facto independence declines and money market operational efficiency becomes difficult to improve. Fiscal dominance should therefore be treated as a background channel that affects both operational quality and market expectations.

Sixth, CBI does not automatically eliminate market fragmentation; improving operational efficiency requires coordinated micro-market reforms. Studies of dispersion and fragmentation suggest that market frictions, including trading structure, counterparty risk, balance-sheet constraints, and prudential regulation, may cause monetary policy transmission to become uneven. CBI creates conditions for the central bank to consistently pursue operational-framework reforms and improve signal quality. However, reducing dispersion and increasing market depth also require stronger

infrastructure, standardized instruments, and improved connectivity across market segments.

Seventh, the direct, mediating, and moderating effects should be clearly modeled. From the theoretical framework, the relationship CBI → money market operational efficiency is unlikely to be a simple linear relationship. A reasonable empirical model should distinguish: (i) the direct effects of CBI dimensions on money market operational efficiency; (ii) indirect effects through transparency, communication, credibility, expectation anchoring, and operational quality; and (iii) moderating effects of exchange-rate pressure and market depth. This approach is consistent with the underlying theory and helps explain why empirical results may differ across market contexts.

In conclusion, the theoretical framework shows that CBI is an important institutional condition for enhancing credibility, improving operational quality, and managing

expectations. Through these mechanisms, CBI can increase money market operational efficiency in terms of policy-rate alignment, stability, resilience, and liquidity. However, this impact depends strongly on boundary conditions, including fiscal conditions, exchange-rate pressures, market depth, and market fragmentation, and requires a refined approach to measurement and modeling. These are the key issues that merit further discussion, both theoretically and in the design of empirical research and policy recommendations.

Acknowledgement: This paper is part of the author's doctoral research project. Working place of the Author: The State Bank of Vietnam.

Conflicts of Interest: The author declares no conflict of interest.

References:

- Alesina, A., & Summers, L. H. (1993). Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence. *Journal of Money, Credit and Banking*, 25(2), 151–162. DOI: 10.2307/2077833
- Anbil, S., & Senyuz, Z. (2022). How Has Monetary and Regulatory Policy Affected Trading Relationships in the U.S. Repo Market? *International Journal of Central Banking*, 1-52. <https://www.ijcb.org/sites/default/files/journal/v18n4/ijcb-v18n4-how-has-monetary-and-regulatory-policy-affected-trading-relationships-us-repo-market.pdf>
- Barro, R.J., & Gordon, D.B. (1983). A Positive Theory of Monetary Policy in a Natural Rate Model. *Journal of Political Economy*, 91(4). DOI: 10.1086/261167
- Bech, M., & Monnet, C. (2015). A search-based model of the interbank money market and monetary policy implementation. *BIS Working Paper No529*. URL: <https://www.bis.org/publ/work529.pdf>
- Bindseil, U. (2014). Monetary Policy Operations and the Financial System, *Oxford University Press*. DOI: 10.1093/acprof:oso/9780198716907.001.0001
- Bindseil, U., & Fotia, A. (2021). Introduction to Central Banking, *Springer Briefs in Quantitative Finance*. DOI: 10.1007/978-3-030-70884-9
- Cukierman, A. (1992). *Central Bank Strategy: Credibility and Independence*, MIT Press, Cambridge.
- Cukierman, A. Webb, A. and Neyapti, S. (1992). Measuring the Independence of Central Banks and Its Effects on Policy Outcomes. *World Bank Economic Review*, 6(3) 353-398. DOI: 10.1093/wber/6.3.353
- Debelle, G., & Fischer, S. (1994). How independent should a central bank be? *Conference Series, Federal Reserve Bank of Boston*, 38, 195-225.
- Duffie, D., & Krishnamurthy, A. (2016). Pass-Through Efficiency in the Fed's New Monetary Policy Setting, 1-82. URL: https://www.kansascityfed.org/documents/7030/Duffie_JH2016.pdf
- Duffie, D., Garleanu, N., & Pedersen, L.H. (2006). Valuation in Over-the-Counter Markets, National Bureau of Economic Research. *NBER Working Paper 12020*. URL: <http://www.nber.org/papers/w12020>
- ECB (2012). *The Implementation of Monetary Policy in the Euro Area*, General Documentation on Eurosystem monetary policy instruments and procedures, 1-95. URL: <https://www.ecb.europa.eu/pub/pdf/other/gendoc201109en.pdf>
- ECB (2023). Discussion Paper: Money markets, central bank balance sheet and regulation, *Working Paper No. 2483*. URL: <https://www.ecb.europa.eu/pub/pdf/scpdps/ecb.dp12~ee2a20dcb8.en.pdf>
- Eijffinger, S.C.W., & Geraats, P.M. (2006). How transparent are central banks? *European Journal of Political Economy*, 22(1), 1-21. DOI: 10.1016/j.ejpoleco.2005.09.013
- Ennis, H. M., & Keister, T. (2008). Understanding Monetary Policy Implementation, *Federal Reserve Bank of Richmond's Economic Quarterly*, 94, 235-263. URL: <https://www.newyorkfed.org/medialibrary/media/research/conference/2008/rmm/EnnisKeister.pdf>
- Geraats, P. M. (2002). Central Bank Transparency. *The Economic Journal*, 112(483), F532-F565, DOI: 10.1111/1468-0297.00082
- Grilli, V., Masciandaro, D., & Tabellini, G. (1991). Political and Monetary Institutions and Public Financial Policies in the Industrial Countries. *Economic Policy*, 13, 341-392. DOI: 10.2307/1344630
- Leeper, E. M. (1991). Equilibria under 'active' and 'passive' monetary and fiscal policies. *Journal of Monetary Economics*, 27(1), 129-147. DOI: 10.1016/0304-3932(91)90007-B

- Lohmann, S. (1992). Optimal Commitment in Monetary Policy: Credibility versus Flexibility, *The American Economic Review*, 82(1), 273-286. URL: <https://www.jstor.org/stable/2117615>
- Nautz, D., & Scheithauer, J. (2010). Monetary policy implementation and overnight rate persistence, *Diskussionsbeiträge*, No. 2010/26, Freie Universität Berlin, Fachbereich Wirtschaftswissenschaft, Berlin.
- Rogoff, K. (1985). The Optimal Degree of Commitment to an Intermediate Monetary Target. *The Quarterly Journal of Economics*, 100(4), 1169–89. DOI: 10.2307/1885679
- Sargent, T.J. & Wallace, N. (1981). Some Unpleasant Monetarist Arithmetic. *Federal Reserve Bank of Minneapolis, Quarterly Review*, 5(3), 1-17. DOI: 10.21034/qr.531
- Walsh, C.E. (1995). Optimal Contracts for Central Bankers. *The American Economic Review*, 85(1), 150-167. URL: <http://www.jstor.org/stable/2118001>
- Woodford, M. (2003). *Interest and Prices Foundations of a Theory of Monetary Policy*, Princeton University Press Princeton and Oxford. URL: <https://www.columbia.edu/~mw2230/InterestandPrices.pdf>
- Whitesell, W.C. (2006). Monetary policy implementation without averaging or rate corridors, *Finance and Economics Discussion Series*, 2006-22, Board of Governors of the Federal Reserve System (U.S.). URL: <https://www.federalreserve.gov/pubs/feds/2006/200622/index.html>

Le Minh Tam

Faculty of Finance and Banking, VNU
University of Economics and Business,
Hanoi city, Vietnam
tamueb2026@gmail.com
ORCID: 0009-0007-1346-4583
