Green Central Banking, Climate Risk, and Price Stability Mandates: Institutional Conditions and Governance Safeguards

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ABSTRACT

This research is motivated by the increasing relevance of climate risk in macroeconomic dynamics, particularly for inflation and monetary policy transmission, which challenges the traditional boundaries of central bank mandates. The study aims to analyze the conditions under which climate-sensitive monetary instruments can be considered consistent with price stability, how the institutional context shapes their legal framing, and the governance safeguards necessary to prevent fiscal dominance. The method used is a qualitative approach based on policy discourse analysis, utilizing 45 official documents from the European Central Bank, Bank Indonesia, and the Network for Greening the Financial System for the period 2024–2026. The results show a significant increase in the integration of climate risk into the discourse on financial and price stability, despite the absence of formal changes in mandates. The findings also indicate that legal legitimacy depends on a measurable link between climate risk and monetary objectives and a governance design that maintains independence. This research emphasizes the importance of a risk-based approach and transparency in the design of monetary instruments. It is concluded that climate risk integration can be legitimately undertaken as a reinterpretation of the mandate, as long as it is supported by a disciplined and accountable institutional framework.

Keywords: *Central Bank Mandate, Climate Risk, Institutional Governance, Legal Framing, Monetary Instrument, Price Stability.*

INTRODUCTION

Recent developments in macroeconomic research suggest that climate-related risks can no longer be treated as exogenous to price stability, rather, they are increasingly embedded within inflation dynamics and monetary transmission mechanisms. Central bank mandates have traditionally been framed in legally stable yet interpretatively flexible language, as reflected in the European Central Bank (ECB) under Article 127(1) TFEU and Bank Indonesia under Law Number 23 of 1999 (as amended). These mandates were formulated in a historical context where climate-related systemic risks had not yet been incorporated into macro-financial analysis. However, emerging empirical evidence indicates that climate change and the transition to a low-carbon economy exert measurable effects on key macroeconomic variables, including inflation and output (Andersson et al., 2020).

The NGFS (2024) highlights that both physical and transition risks increasingly influence macroeconomic outcomes relevant to monetary policy, particularly inflation and growth. Empirical contributions by Kotz et al. (2024) and Känzig (2024) further demonstrate that temperature volatility and climate policy shocks can generate inflationary pressures, while Schnabel (2025) conceptualizes these dynamics through the notion of "*climateflation*," emphasizing supply-side disruptions. In the Indonesian context, Wilestari (2025) shows that integrating climate risk into financial strategies enhances

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long-term resilience. This evidence strengthens the analytical basis for considering climate risk within the domain of price stability.

Despite this growing economic consensus, the legal implications remain contested. The core issue is not whether climate risks matter, but how they interact with the legal boundaries of central bank mandates (Panetta, 2024; Alim et al., 2025). When climate-related risks materially affect price formation and financial transmission, a critical question arises: does their incorporation into monetary operations constitute a mandate expansion or merely an interpretation of existing statutory objectives? The literature on green central banking reflects a polarized debate. One strand warns that climate-oriented credit allocation risks fiscal dominance and distortions in resource allocation (Agur, 2024; Larsen & Jackson, 2025). Another argues that neglecting systemic climate risks may undermine long-term macroeconomic stability (Boneva et al., 2022; Campiglio & Van Der Ploeg, 2022). However, the legal conditions under which climate-sensitive monetary instruments can be justified within existing mandates remain underexplored. This research gap concerns the boundary conditions of mandate interpretation, the role of institutional context in shaping legal justification, and the governance safeguards required to mitigate risks of fiscal dominance.

Against this backdrop, this study advances a novel analytical perspective by shifting the focus from normative advocacy to legal feasibility. Its primary contribution lies in conceptualizing climate risk integration as a matter of mandate interpretation rather than mandate expansion. The study introduces the concept of "Collaborative Autonomy," a governance framework that distinguishes between infrastructural coordination, such as taxonomy alignment and disclosure standards, and operational independence in monetary decision-making (D'Orazio & Popoyan, 2023; Benlakhdar & Ikhlef, 2025). This distinction enables the incorporation of climate considerations while preserving central bank independence and minimizing exposure to fiscal dominance (Svartzman et al., 2021; Helleiner, 2025). The study also bridges doctrinal legal analysis with institutional discourse analysis, examining not only statutory provisions but also how central banks frame climate risks in official communications.

The objectives of this research are threefold. First, it seeks to reassess the doctrinal understanding of market neutrality in central banking law, particularly in contexts where systemic climate risks affect inflation outcomes. Second, it conducts a comparative legal-institutional analysis of the ECB and Bank Indonesia, identifying similarities and divergences in how climate risks are explicitly or implicitly integrated into monetary reasoning. Third, it develops a governance framework capable of reconciling institutional independence with the need to adapt to emerging systemic risks.

This study contributes both theoretically and practically. It reframes climate risk as endogenous to price stability, thereby opening interpretative space within existing legal mandates without requiring formal amendment. It offers guidance for central banks in designing climate-sensitive monetary instruments that remain consistent with principles of proportionality, transparency, and accountability. The comparative analysis of the ECB and Bank Indonesia further demonstrates that the legal feasibility of such instruments is contingent upon institutional context, including mandate structure, judicial exposure, and macroeconomic characteristics. By integrating legal interpretation with institutional analysis, this study provides a multidimensional account of how central bank mandates evolve in response to climate-related risks while maintaining their legal legitimacy.

LITERATURE REVIEW

Price Stability and the Integration of Climate Risk into Monetary Mandates

Price stability has traditionally been conceptualized as a legal objective rather than a purely economic variable, embedded within statutory frameworks that are stable in form yet flexible in interpretation (Dow & Shi, 2025; Aguila & Wullweber, 2025). In this context, recent developments in macroeconomic research indicate that climate-related risks can no longer be treated as an exogenous factor but are increasingly integrated into

inflation dynamics and monetary transmission mechanisms (Dafermos et al., 2018; Breitenfellner & Pointner, 2021). The Network for Greening the Financial System emphasizes that both physical and transition risks associated with climate change exert growing influence on key macroeconomic variables such as inflation and output, thereby becoming directly relevant to monetary policy considerations. Incorporating climate risk into monetary analysis can be understood as an interpretive evolution of the price stability mandate rather than a formal expansion of policy objectives (Nieto, 2019; Sawyer, 2022).

Empirical studies by Schnabel (2021) and Dietz (2022) further support this perspective by demonstrating that climate variability, decarbonization pathways, and energy transition shocks generate measurable inflationary pressures and macroeconomic disruptions. From a doctrinal standpoint, this implies that climate risk constitutes a macroeconomic variable with direct monetary relevance (Solana & Goldoni, 2024). Ignoring such systemic risks may therefore undermine the very objective of price stability that central banks are mandated to protect. This shifts the debate from normative considerations toward the conditions under which mandate interpretation can adapt to evolving economic risk structures, particularly when climate-related factors materially affect inflation and output dynamics (Wutscher, 2024).

Market Neutrality and Its Legal Limits in Green Monetary Policy

Market neutrality has long been regarded as a guiding principle in monetary policy operations, particularly in asset purchase programs (Faria et al., 2023). However, it has never been codified as an absolute legal obligation but rather functions as a prudential safeguard aimed at preserving institutional credibility and avoiding distortions (Dziwok & Jager, 2021; Zilioli & Loannidis, 2022). In the context of climate risk, strict adherence to market neutrality presents significant challenges, as financial markets often embed structural biases toward carbon-intensive assets (Goodhart & Lastra, 2018; Aghion et al., 2022; Buthelezi, 2025). The network for greening the financial system highlights that climate-related risks are not always fully reflected in asset valuations, leading to systemic mispricing. Under such conditions, mechanically replicating market structures may inadvertently reinforce existing distortions rather than mitigate them.

From a legal perspective, the central challenge lies in distinguishing between risk-based corrective differentiation and discretionary sectoral intervention (Jones & Matthijs, 2019; Takahashi, 2021). The former can be justified within a risk management framework, while the latter risks exceeding the boundaries of central bank mandates (Ullah et al., 2025; Vestin et al., 2025). As a result, the concept of market neutrality is increasingly interpreted in functional terms, emphasizing consistency and the avoidance of arbitrary discrimination rather than strict market replication (Hinarejos & Rakic, 2023). This reinterpretation allows for the incorporation of climate-related risk adjustments without undermining legal legitimacy, provided that such measures are grounded in objective and measurable risk assessments.

Central Bank Independence and Governance Safeguards against Fiscal Dominance

Central bank independence, particularly in the form of instrument autonomy, remains a fundamental pillar for maintaining the credibility of monetary policy (Ali et al., 2025). The literature consistently underscores that fiscal dominance arises when monetary policy becomes subordinated to government financing needs, thereby blurring the institutional boundary between monetary and fiscal functions. In the context of climate-sensitive monetary policy, this risk becomes more pronounced due to the potential overlap between environmental policy objectives and fiscal agendas. The Network for Greening the Financial System acknowledges that while central banks have a role in addressing climate-related financial risks, primary responsibility for climate policy rests with governments. This necessitates a clear institutional separation between coordination and subordination.

To mitigate these risks, the literature emphasizes the importance of structured governance design. Climate risk integration can be justified within prudential frameworks, such as collateral adjustments or stress-testing methodologies, as long as it

remains anchored in financial and monetary stability objectives. At the same time, legitimacy depends on transparency, measurable linkage to statutory objectives, and a clear separation between informational coordination, such as taxonomy development and operational decision-making (Busuioc & Lodge, 2017). The Network for Greening the Financial System further highlights that climate-related shocks can affect both supply and demand, thereby influencing inflation and economic stability, which reinforces their relevance within monetary mandates. Disciplined governance structures are essential to ensure that climate integration strengthens, rather than weakens, central bank independence.

RESEARCH METHODS

This study uses a qualitative design based on institutional analysis with Policy Discourse Analysis (PDA). It aims to examine how central banks construct and justify the institutional boundaries of climate-related monetary policy through policy language. The analysis focuses on key concepts such as price stability, climate risk, and institutional independence to provide an interpretive understanding beyond quantitative approaches. The population of this study consists of institutional policy documents rather than individuals. The unit of analysis is, therefore, official documents that reflect formal positions and evolving interpretations of central bank mandates. The population includes publications issued by the European Central Bank (ECB), Bank Indonesia (BI), and the Network for Greening the Financial System (NGFS). From this population, a purposive sampling technique is employed based on specific criteria: documents that explicitly address climate risk, monetary policy, collateral frameworks, or liquidity operations, as well as institutional publications such as annual reports, supervisory reports, and policy speeches. In total, 45 documents are analyzed, comprising 18 documents from the ECB (742 pages), 15 documents from Bank Indonesia (615 pages), and 12 documents from the NGFS (530 pages), all published within the period 2024–2026. This corpus provides a sufficiently robust empirical basis for identifying comparative patterns in institutional discourse.

Data collection is conducted through a documentation method by systematically retrieving publicly accessible official publications. This approach ensures transparency and replicability of the research process. The collected documents encompass various forms of policy communication, including formal reports, monetary policy statements, and speeches by central bank officials. These materials collectively capture how institutional narratives evolve in response to climate-related risks and how such risks are integrated into mandate interpretation. Data analysis is carried out using NVivo 14, a qualitative data analysis software designed to organize, code, and analyze unstructured textual data. NVivo facilitates systematic coding, pattern identification, and the exploration of relationships across themes within large textual datasets. The analytical process begins with deductive coding based on theoretically derived categories, including price stability, climate risk, financial stability, market neutrality, and institutional independence. Subsequently, inductive coding is applied to capture emergent themes such as proportionality, risk-based adjustments, liquidity transmission, and greenwashing. This combined approach enables the analysis to remain theoretically grounded while accommodating evolving institutional narratives.

To deepen the analysis, matrix coding queries are employed to identify co-occurrence patterns among key concepts, particularly the relationship between climate risk and price stability, exchange rate stability, and institutional independence. The analytical strategy operates across three layers: the textual layer (examining frequency and co-occurrence patterns), the institutional layer (interpreting how mandates are framed within documents), and the comparative layer (identifying divergences between ECB and BI discourse). The findings are not intended as quantitative validation but as structured indicators of legal reasoning and institutional framing. To ensure validity and reliability, the study maintains coding transparency through NVivo log trails, cross-checks key

excerpts across different document types, and applies a comparative approach to reduce single-institution bias.

RESULTS

Market Neutrality and Climate Risk in Monetary Doctrine

The coding results reveal a clear and significant intensification in the linkage between climate risk and core monetary as well as financial stability concerns. Empirical evidence shows that the co-occurrence between "climate risk" and "financial stability" reaches 62% in ECB documents and 55% in Bank Indonesia documents over the 2024–2026 period. This marks a substantial increase compared to earlier phases, when climate-related issues appeared only sporadically within monetary policy discourse. In relative terms, the rise is estimated at approximately 20–30%, indicating not only greater frequency but also deeper integration of climate considerations into central banking narratives. This shift suggests that climate risk is no longer treated as an external or peripheral concern, but rather as an integral component of financial system stability and macroeconomic management (Campiglio & Van der Ploeg, 2022).

This trend is consistent with broader findings that climate change and the green transition increasingly influence key macroeconomic variables, particularly inflation and output dynamics. As highlighted in recent studies, climate-related shocks such as extreme weather events, transition policies, and energy price volatility can directly affect price levels and economic activity (NGFS, 2024). Consequently, these developments have important implications for monetary policy frameworks, especially in maintaining price stability. Within this context, climate-related credit measures may be interpreted as compatible with central bank mandates, particularly when there is clear empirical evidence that climate risks materially influence inflation dynamics or the effectiveness of monetary transmission mechanisms. This reinforces the argument that integrating climate considerations is not a deviation from core objectives, but rather an adaptation to evolving macroeconomic realities (Kotz et al., 2024).

At the same time, the analysis of "market neutrality" reveals a nuanced yet significant shift in its interpretation within central bank discourse. In the case of the ECB, neutrality is increasingly understood not as strict market replication, but as the avoidance of arbitrary discrimination, grounded in principles of proportionality and sound risk management. This evolving perspective enables central banks to incorporate risk-based differentiation, including climate-related adjustments, without being seen as violating their institutional mandates. Rather than abandoning the concept of neutrality, central banks are redefining it in more functional terms, ensuring consistency, fairness, and policy effectiveness in the face of changing risk environments. As argued by Stellinga and Thiemann (2025), climate-sensitive credit measures can thus be justified as risk-adjusted monetary operations, provided they remain proportionate and demonstrably aligned with the overarching objective of price stability.

Comparative Integration of Climate Risk

Despite this convergence, institutional framing differs markedly across jurisdictions. In ECB documents, climate risk is predominantly linked to balance sheet exposure, asset valuation, and collateral frameworks, situating it within financial stability and monetary transmission channels. By contrast, Bank Indonesia more frequently associates climate risk with exchange rate stability and macroprudential oversight. This divergence reflects structural characteristics of emerging markets, including commodity dependence and sensitivity to capital flows. The literature suggests that climate risks transmit differently across economies depending on financial structure and exposure to external shocks (Boneva et al., 2022; Campiglio & Van Der Ploeg, 2022). Moreover, NGFS highlights that climate-related risks fall within central banks' mandates insofar as they affect financial stability and economic resilience. Thus, the institutional context plays a decisive role in shaping the legal framing and justification of climate-sensitive monetary instruments.

Further insights emerge from matrix coding analysis, which shows consistent intersections between climate risk and price stability discourse in both ECB and Bank Indonesia materials, albeit with varying intensity. In ECB documents, climate risk is typically embedded in discussions of asset risk exposure and the implications of stranded assets for monetary transmission. In contrast, Bank Indonesia places greater emphasis on exchange rate channels, reflecting broader transmission pathways in emerging market contexts. NGFS reports also confirm that acute physical climate events, such as extreme weather, affect both supply and demand, thereby influencing inflation in both the short and long term (NGFS, 2024). These findings suggest that climate-related monetary measures can be considered legally consistent with price stability when clear transmission channels to inflation, exchange rates, or financial stability are identified (Batten et al., 2020).

At the same time, references to institutional independence frequently co-occur with climate-related discussions, indicating heightened sensitivity to risks of fiscal dominance. The discourse across institutions reflects caution, particularly where coordination with fiscal authorities is mentioned. Rather than signaling an expansionary policy stance, climate integration is framed as a risk-based adjustment within existing mandates. NGFS similarly underscores that while central banks have a role in addressing climate-related risks, this role must remain within their mandates and preserve institutional independence (NGFS, 2024). This highlights that the legal framing of climate-sensitive measures is contingent upon maintaining a clear boundary between monetary and fiscal functions (Zilioli & Ioannidis, 2022).

The empirical findings indicate that references to institutional independence frequently appear in close proximity to climate-related discussions, particularly in Bank Indonesia documents, where such references are more often associated with themes of fiscal coordination than in ECB materials. This pattern reflects a heightened sensitivity in emerging market contexts to the risk of fiscal entanglement, especially given structural factors such as development financing needs and external vulnerability. At the same time, the growing recognition that climate change affects inflation and macroeconomic stability reinforces the relevance of climate considerations within central bank mandates (NGFS, 2024; Agur, 2024).

These patterns suggest that institutional defensibility depends not solely on the substantive content of policy measures but also on the governance structures through which they are implemented. Where climate-sensitive instruments are explicitly linked to core monetary objectives such as price stability or the effectiveness of monetary transmission and are supported by transparent procedures, concerns regarding institutional independence tend to be mitigated. Conversely, where such linkages are weak or insufficiently articulated, institutional sensitivity increases, raising the risk of perceived fiscal dominance or *ultra vires* action. This is consistent with broader policy guidance emphasizing that the integration of climate-related risks must be grounded in clear mandates, robust analytical frameworks, and transparent communication (Boneva et al., 2022; NGFS, 2024).

Governance Framework for Climate-Responsive Central Banking

The data do not indicate any formal modification of statutory mandates in either jurisdiction. Instead, they reveal an interpretive evolution in which climate risk is increasingly embedded within existing analytical categories such as price stability and financial stability. This supports the view that central banks can integrate climate considerations without expanding their mandates, provided that such integration is anchored in established objectives. NGFS emphasizes that climate change and the net-zero transition have macroeconomic implications over time horizons relevant for monetary policymakers, particularly through their effects on inflation and output (NGFS, 2024). The legal justification of climate-sensitive measures depends less on formal mandate revision and more on the ability to demonstrate a clear linkage between climate risk and core monetary objectives (Zilioli & Ioannidis, 2022).

Building on these findings, the concept of "Collaborative Autonomy" can be formalized as a governance framework that directly addresses the research objective concerning safeguards against fiscal dominance and *ultra vires* exposure. The model rests on a clear distinction between two domains of governance. The first domain concerns infrastructural coordination, encompassing the development of taxonomy standards, disclosure frameworks, stress-testing methodologies, and verification protocols. These functions relate to the informational architecture necessary for risk assessment and may legitimately involve inter-agency collaboration. Importantly, they do not determine liquidity allocation or the deployment of monetary instruments, thereby remaining consistent with the informational, rather than operational, dimension of policy (Svartzman et al., 2021; NGFS, 2024).

The second domain concerns operational autonomy, which includes refinancing operations, collateral eligibility criteria, liquidity provision decisions, and risk-based balance sheet management. Authority in this domain must remain exclusively with the central bank. The separation between infrastructural coordination and operational decision-making functions as a structural safeguard against fiscal dominance. The legal rationale lies in preserving instrument independence while acknowledging that accurate climate risk assessment may require shared informational standards. In this framework, taxonomy alignment informs risk evaluation but does not alter statutory objectives, whereas liquidity decisions must remain anchored in monetary reasoning and demonstrably linked to inflation dynamics or transmission mechanisms (Zilioli & Ioannidis, 2022; NGFS, 2024).

The legitimacy of this governance model depends on several interrelated conditions. First, climate-sensitive instruments must exhibit measurable monetary relevance, particularly through identifiable transmission channels affecting inflation, output, or financial stability. Second, eligibility criteria and policy parameters must be transparent and pre-defined, thereby limiting discretionary interpretation. Third, in treaty-based or highly scrutinized legal systems, such measures must satisfy proportionality requirements ensuring suitability, necessity, and balanced side effects. These conditions align with the broader principle that climate-related risks can be integrated within existing mandates when they materially affect macroeconomic outcomes relevant to monetary policy (Dietz, 2022; NGFS, 2024).

The model positions price stability as responsive to systemic risks, including climate-related risks, insofar as these risks influence monetary transmission. Rather than introducing climate objectives as independent policy goals, the framework embeds them within a risk-informed interpretation of existing mandates. The governance mechanism preventing fiscal dominance is therefore structural rather than rhetorical. While government actors may participate in defining environmental standards, decision-making authority over liquidity and monetary instruments remains exclusively with the central bank. This institutional separation reduces the likelihood that coordination evolves into directive fiscal influence, thereby safeguarding both legal legitimacy and operational independence in the context of climate-sensitive monetary policy (de Boer et al., 2024).

DISCUSSION

This discussion highlights the key findings regarding the integration of climate risk into monetary policy frameworks without reiterating the full empirical results. The study demonstrates that climate risk is increasingly positioned as an integral component of price stability and financial stability analysis, rather than as an external factor. This finding is consistent with prior studies indicating that climate change directly affects inflation through supply-side disruptions and energy price dynamics (Boneva et al., 2022; Campiglio & Van Der Ploeg, 2022). In addition, recent work by the Network for Greening the Financial System confirms that climate change and the green transition are already influencing key macroeconomic variables such as inflation and output, thereby reinforcing their relevance for monetary policy (NGFS, 2024). These findings support the

argument that climate risk integration should be understood as an evolving interpretation of existing mandates rather than a formal expansion of objectives.

At the same time, this study adds an institutional dimension by demonstrating that the legal legitimacy of climate-sensitive monetary policy depends heavily on contextual factors. Earlier contributions, such as Batten et al. (2020), emphasize the risk of fiscal dominance, while Octavianty et al. (2025) highlight potential distortions in credit allocation. However, the present findings suggest that these risks are not determined solely by the type of instrument used, but by how such instruments are framed and justified within legal and institutional structures. In this regard, the divergence between the European Central Bank and Bank Indonesia reflects differences in monetary transmission channels. The ECB primarily situates climate risk within financial stability and balance sheet exposure, whereas Bank Indonesia emphasizes exchange rate stability. This aligns with existing literature suggesting that monetary transmission in emerging markets is more sensitive to external shocks, including capital flows and commodity price volatility (Campiglio & Van Der Ploeg, 2022).

Furthermore, the study contributes to the debate on market neutrality in central banking. Traditional interpretations often treat neutrality as a rigid principle, implying that any form of policy differentiation constitutes a deviation (Agur, 2024). However, the findings indicate a shift toward a functional interpretation, in which neutrality is understood as the avoidance of arbitrary discrimination rather than strict market replication. This shift is supported by the recognition that markets may systematically misprice environmental risks, thereby justifying risk-based interventions (Boneva et al., 2022). In this context, climate-sensitive monetary instruments can remain consistent with neutrality, provided they are grounded in measurable risk assessments and do not introduce unjustified sectoral bias.

A central contribution of this study lies in the development of the "Collaborative Autonomy" framework as a governance mechanism to address the risks of fiscal dominance and *ultra vires* action. Unlike prior approaches that focus primarily on normative boundaries between monetary and fiscal policy, this framework offers a structural solution through the separation of infrastructural coordination and operational autonomy. This approach is consistent with policy recommendations emphasizing the importance of shared data standards, climate scenarios, and risk assessment tools to enhance financial system resilience (NGFS, 2024). By distinguishing between informational coordination and decision-making authority, the framework reconciles the need for inter-agency collaboration with the preservation of central bank independence.

The implications of these findings are both theoretical and practical. The study reinforces an interpretive approach to central banking law, demonstrating that the price stability mandate is adaptable to emerging systemic risks, including climate-related risks. In practice, it provides guidance for policymakers in designing climate-sensitive monetary instruments that remain legally defensible. This includes ensuring a clear linkage between policy instruments and statutory objectives, adhering to proportionality principles, and maintaining transparent, rule-based governance structures. In this sense, climate integration is not only conceptually feasible but also institutionally sustainable, provided that governance design effectively safeguards mandate clarity and operational independence.

CONCLUSION

This study investigates how central banks integrate climate risk into monetary and financial stability frameworks, focusing on the ECB and Bank Indonesia. The findings reveal that climate risk is increasingly referenced in institutional discourse, but its framing varies by context. In the ECB, climate considerations are embedded within balance sheet exposure, asset valuation, and monetary transmission mechanisms, reflecting a focus on financial stability. In contrast, Bank Indonesia emphasizes exchange rate stability and macroprudential oversight, highlighting broader transmission channels in emerging markets. While references to climate risk intersect with price stability discussions, formal

mandate language has not shifted, instead, an interpretive adjustment is emerging, allowing climate considerations to be incorporated within existing statutory objectives. The study introduces the concept of collaborative autonomy, distinguishing between infrastructural coordination, shared data standards, disclosure frameworks, and verification protocols and operational autonomy, where central banks retain exclusive control over monetary instruments. This framework ensures that climate-sensitive adjustments are consistent with statutory objectives while preserving institutional independence.

Implications include the need for central banks to embed climate risk within risk-informed interpretations of mandates rather than expanding objectives, maintaining legal defensibility, and ensuring proportionality and transparency in operational decisions. The study also underscores that governance mechanisms, including treaty obligations and institutional separation, shape how climate integration can occur. Limitations involve the focus on only two jurisdictions, limiting generalizability, and reliance on document-based coding, which may not capture all practical decision-making processes. Future research could explore longitudinal effects of climate-sensitive policies on monetary outcomes, comparative studies across additional emerging and advanced economies, and the evaluation of operational impacts of collaborative autonomy on financial stability and policy effectiveness.

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