

Emerging Markets' Kryptonite: Inconsistencies in Monetary Policymaking*

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Abstract

In the last two decades, central bankers in emerging markets have successfully anchored inflation expectations at low levels, previously considered nearly impossible. However, certain opaque practices in some emerging markets threaten this achievement, especially under frequent external shocks. Our paper, covering 25 emerging markets and 13 advanced economies from 2007 to 2021, shows that most EMs have notably enhanced their monetary policy frameworks, with significant improvements in Policy and Operational Strategy and Communications. Despite these achievements, inconsistencies within the monetary policy frameworks, namely the deviation between what is stated ex-ante and what is done ex-post, remain their "kryptonite". We argue that their low de facto Independence and Accountability, coupled with capacity constraints and weaknesses in policy formulation, could be a key underlying reason for prevalent inconsistencies within monetary policy frameworks in emerging markets. Such deviations often intensified during the 2013 Taper Tantrum and the 2021 COVID-19 shock, and have led to higher inflation expectations. This applies not only to well-known cases like Argentina and Turkey, where inflation has gone out of hand, but also to a larger number of emerging markets. Conversely, some emerging markets are adopting more sound practices, effectively clarifying and refining their frameworks. To preserve the hard-won credibility, it is crucial for these central banks to further insulated from political pressures and improve policy formulation capacity, which would allow them to adhere the norms of sound monetary policymaking even in times of stress.

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1. Introduction

In the last two decades, emerging markets (EMs) have achieved remarkable success in reducing inflation and inflation expectations to levels previously deemed unattainable. From the early 2000s to the early 2020s, the average inflation and inflation expectations decreased from about 15 percent to 4 percent, bringing them close to the averages seen in advanced economies (AEs). This achievement is largely attributed to enhanced monetary policy frameworks (MPFs), often anchored around a numerical inflation target, reflecting global thinking and practice. However, even across inflation targeting regimes, EM central banks significantly vary in how they design, operationalize, and communicate monetary policy, as well as in their legal foundations, both in de jure and de facto terms. These differences manifest in several areas; for example, the definition and adjustment of numerical targets, the presence of forward-looking policy strategies, and the foundations of their legal frameworks, both in theory and in practice. Additionally, the capacity of these banks to formulate policy is often limited by challenges related to data and modeling, or by inefficient internal processes. At the same time, in addition to inflation control, many EMs pursue other objectives, such as economic growth or exchange rate stability, and use a variety of tools, including foreign exchange interventions, alongside policy interest rates. A common perception exists that some EM central banks engage in opaque policy practices, marked by an unexplained gap between "what they say they do" ex-ante and "what they do" ex-post. In order to capture the complexity of monetary policy making across EMs properly, therefore, it is key to look at these critical elements and how they interact within the MPF.

In this paper, we quantify MPFs in 25 EMs and 13 AEs over the period of 2007-2021 through a comprehensive metric. Building on the work by Unsal et al. (2022), we look at three foundational pillars of an MPF, collectively referred to as IAPOC: (i) **I**ndependence and **A**ccountability, which provides the foundations of monetary policy; (ii) **P**olicy and **O**perational Strategy, which guides adjustments to the policy stance given the objectives, as well as adjustments to the policy instruments to implement the policy stance; and (iii) **C**ommunications, which convey decisions about the policy stance and rationale to the public. Using the narrative approach similar to Romer and Romer (2023), we use public information collected manually from central banks' laws and websites to assess a detailed set of 225 criteria and to construct the IAPOC index and its pillars over time.¹ The IAPOC index provides a measure of MPFs across countries and time periods by characterizing all three pillars. As expected, the index and its pillars exhibit a strong correlation with inflation outcomes and expectations.

¹The IAPOC metric is applicable to all countries with some room for monetary policy. This excludes individual countries in a monetary union, countries with a hard peg, or countries with no separate legal tender.

We have three contributions to the literature, each key to understand the monetary policy landscape in EMs. First, by shifting the focus to MPFs and away from monetary policy or exchange rate regime classifications (IMF’s Annual Report on Exchange Arrangements and Exchange Restrictions, AREAER; Calvo and Reinhart, 2002; Reinhart and Rogoff, 2004; Cobham, 2021), we offer a dynamic and realistic picture of monetary policymaking across countries. This approach accurately captures monetary policy practices within EMs which often share the same monetary policy (i.e., inflation targeting) and exchange rate regime (i.e., floating exchange rates). The IAPOC index also demonstrates how MPFs have been evolving in these countries over time and identifies remaining gaps across the pillars (and sub-pillars). This is valuable as less is typically known about MPFs in EMs, where more heterodox and fast-changing approaches are far more common than in their AE counterparts.

Second, our methodology further adopts coherence and consistency, in addition to transparency, as underlying three principles of a sound MPF.² *Transparency* captures the availability and clarity of information necessary for the public to comprehend the MPF and associated policy actions (Blinder et al., 2001). *Coherence*, in turn, captures the extent to which the MPF embodies logical and unequivocally desirable elements that reflect a broad consensus, such as having a forward-looking policy strategy and timely and regular communications. Finally, *consistency* captures the alignment between the Policy and Operational Strategy and Communications pillars in terms of tools and objectives. By adopting the principle-based approach, we can look into monetary policy landscape across different policy practices, without taking a stand on the desirable monetary policy tool(s) or objective(s). Relatedly, the IAPOC metric does not view the inflation-targeting regime as a panacea and can flexibly accommodate more frontier approaches, such as integrated policy frameworks with multiple objectives and tools.³

Standalone scores associated with each principle (IAPOC-transparency, IAPOC-coherence, and IAPOC-consistency) provide additional new insights into MPFs and the differences between country groups. We find that while EMs have made progress in transparency and coherence over last 15 years, they still lag sizably behind AEs in terms of consistency. This is because, for example, policy formulation and decisions sometimes do not discuss clearly how they help achieve policy objectives and numerical targets. It is also common to have the tools used in practice do not match

²For measurement of central bank transparency, see (Eijffinger and Geraats, 2006; Dincer and Eichengreen, 2008, 2014; Al-Mashat et al., 2018; Dincer et al., 2019).

³The global financial crisis and COVID-19 pandemic have emphasized the need to enhance the potency of monetary policy in many parts of the world, especially in EMs that are vulnerable to capital inflow shocks. As a result of this, an increasing number of EMs have moved towards approaches where multiple tools are employed in pursuit of multiple objectives related to financial stability, exchange rate stability, and capital flow management. Borio (2019) describes the move away from standard inflation-targeting regimes in EMs as “the practice that moved ahead of theory”. See Gopinath (2019); Basu et al. (2023); Erceg et al. (2020); IMF (2020b) how an “integrated” approach with multiple objectives and tools could be help provide macroeconomic and financial stability in some circumstances.

the ex-ante exposition in the Policy and Operational Strategy. Even if they match, it is often not explained how these tools relate to and are jointly balanced. This highlights the importance of looking beyond transparency to have a more accurate view of how monetary policy is conducted in EMs, particularly in the presence of multiple objectives and tools.⁴

Third, we consider a novel joint account of Independence and Accountability and assesses both *de facto* and *de jure* scores for this pillar. We focus on the notion of *operational* independence of the central bank with respect to *monetary policy*. This independence is envisioned within the context of accountability, meaning that safeguards are in place to provide appropriate control and good governance (BIS (2009)). We further complement this literature by systematically accounting for both the legal arrangements (*de jure*) and the arrangements that exist in reality (*de facto*).⁵ Incorporating *de facto* elements into the analysis of Independence and Accountability is crucial for understanding the evolution of MPFs. This is particularly relevant because, across different country groups, *de jure* arrangements often remain constant, likely due to the fact that central bank laws usually cannot be amended or repealed rapidly. In various cases, however, limited (or lack of) legal backing did not stop countries from adopting more advanced policy practices, and vice versa. Even with all arrangements for Independence and Accountability (both *de jure* and *de facto*) in place, however, undesirable interference in monetary policymaking may not be avoided.⁶ This is a further reason why the MPF should be assessed not only based on what is technically or seemingly legal but also based on how policy is conducted. This is explicitly captured by the Policy and Operational Strategy and Communications pillars in the IAPOC metric.

Overall, our analysis shows that EMs have strongly improved their MPFs since mid 2000s, especially in terms of novel Policy and Operational Strategy and Communications, but inconsistencies within the MPFs continues to be their "kryptonite". We argue low *de facto* Independence and Accountability, coupled with capacity constraints and weakness in policy formulation, could be a key underlying reason for prevalent inconsistencies between their stated frameworks and policy actions. Such deviations often intensified for prolonged periods during the 2013 Taper Tantrum and the 2021 COVID-19 shock, and have led to higher inflation expectations in many EMs. This applies not only to well-known cases like Argentina and Turkey, where

⁴While there could be good reasons to adopt multiple objectives and tools, they need to be clearly explained and justified, including how they work together and how they are balanced when trade-off arises, in order to not to jeopardize the soundness of MPF, which we measure in this paper.

⁵Most of the existing work on central bank independence that relies solely on *de jure* aspects. Cukierman (1992) and Cukierman et al. (1992) suggest the turnover rate of central bank governors as a *de facto* measure of central bank independence. In our approach, we consider *de facto* counterpart of all *de jure* criteria, where applicable.

⁶This is in line with Posen (1993) who argues that central bank independence requires political backing. Alpanda and Honig (2010) propose a measure of independence based on the extent to which monetary policy easing tracks the electoral cycle and Binder (2021) constructs a dataset of political pressure on central banks.

inflation has gone out of hand, but also to a larger number of EMs. Conversely, some emerging markets are adopting sounder practices. To preserve the hard-won credibility, it is crucial for these central banks to further insulated from political pressures and improve capacity constraints on data and analysis, which would allow them to adhere the norms of sound monetary policymaking even in times of stress.

The rest of this paper is organized as follows. Section 2 reviews the anatomy of MPFs. Section 3 describes the methodology used to formulate the criteria underlying the IAPOC metric and the construction of the IAPOC index. Section 4 showcases the index and how it changed over time across pillars and identify remaining gaps in EMs. Section 5 focuses on the inconsistencies observed in MPFs across EMs. Section 6 observes how these inconsistencies played a role in EMs responses to the Taper Tantrum and the COVID-19 shock. Section 7 provides detailed case studies of less successful or challenging experience from Argentina and Turkey, followed by two examples of effective practices from Brazil and Indonesia. The paper concludes in Section 8.

2. Monetary Policy Framework: 3 Pillars

2.1. Definition

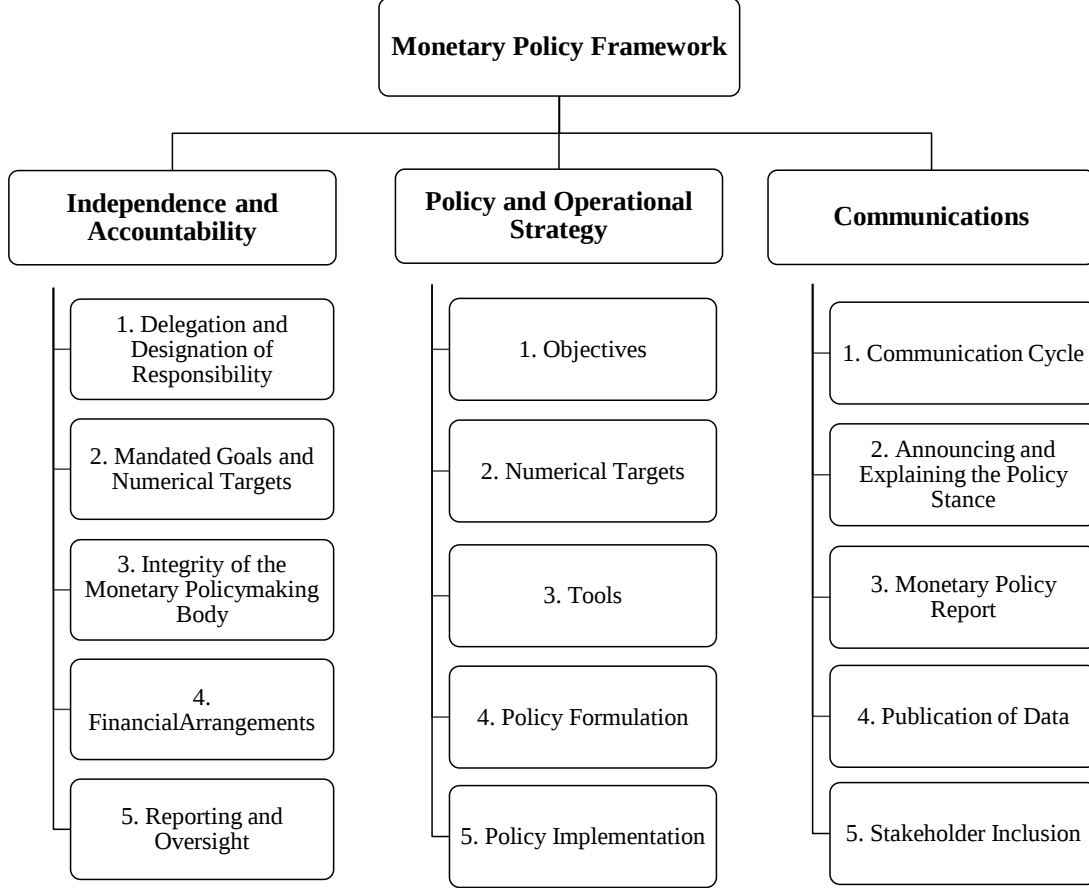
Following Unsal et al. (2022) , we view the MPF as encompassing three pillars—Independence and Accountability, Policy and Operational Strategy, and Communications. The Independence and Accountability pillar covers the central bank’s monetary policy mandate and associated goals, together with (de jure and de facto) operational independence and public accountability in pursuit of these goals. Policy and Operational Strategy includes the strategy that guides the formulation and implementation of monetary policy; that is, how the monetary policy stance is set using the tools (based on the objectives and associated numerical targets) and how changes in the tools are implemented. Communications, in turn, captures how the policy stance, and its rationale, are conveyed to the public. In unison, these IAPOC pillars provide a complete description of an MPF.

Throughout this paper, monetary policy “mandate” refers to a legislated order to formulate and implement monetary policy directed at certain goals. The “objectives” constitute the practical interpretation of the mandated goals in terms of what monetary policy aims to achieve. The “numerical targets”, in turn, capture the operationalization of the monetary policy objectives through the setting of targets, typically with a medium-term horizon (e.g., the inflation target). The “tools” comprise the monetary policy operating targets that are adjusted to attain the objectives and associated numerical targets, including those used to signal the policy stance (e.g., the policy interest rate) and those that have a more supportive role (e.g., asset purchases). Finally, the “instruments” refer to the monetary policy operations and facilities used to implement the changes in the tools (e.g., open market operations).

2.2. Scope

We follow Unsal et al. (2022) in delineating the MPF along its conceptual constituents (Figure 1). This further facilitates a clear separation of potential sources of information.

Figure 1: Monetary Policy Framework, Pillars and Sub-Pillars



Source: Unsal et al. (2022)

While several features of MPFs are relevant across pillars, each pillar (and sub-pillar) captures a unique perspective of these features within the IAPOC metric. For example, in terms of the numerical targets, Independence and Accountability (sub-pillar 2) captures the governance arrangements regarding the setting of numerical targets (e.g., who sets them and how frequently), whereas Policy and Operational Strategy (sub-pillars 2 and 4) captures the actual specification of and revisions to numerical targets and how they guide policy formulation. Communications (sub-pillars 2 and 3), in turn, captures how numerical targets feature in monetary policy decision announcements and reports.⁷ In what follows we summarize the scope of each pillar and its associated sub-pillars.

⁷Unsal et al. (2002) and Appendix A further detail how the IAPOC metric covers various elements in different pillars.

2.2.1. Independence and Accountability

The first pillar of the IAPOC metric comprises (de jure and de facto) Independence and Accountability as the foundation of monetary policymaking. We focus on the notion of *operational* independence to formulate, decide on and implement monetary policy without unwarranted external influence or direction from any of the branches of government or financial sector (Fischer, 1995b). This independence is envisioned within the context of accountability, meaning that safeguards are in place to provide appropriate control and good governance (BIS (2009)).

The rationale behind the widespread acceptance of monetary policy operational independence is severalfold (Blinder, 1999; Fischer, 2017). Most prominently, delegating monetary policy to an independent body mitigates the inflationary bias that results from discretionary monetary policy (Kydland and Prescott, 1977; Barro and Gordon, 1983a,b; Rogoff, 1985). These theoretical arguments, in turn, underpin the longstanding empirical literature aimed at studying the economic benefits of central bank independence (Bade and Parkin, 1980; Grilli et al., 1991; Cukierman, 1992; Cukierman et al., 1992; Alesina and Summers, 1993; Posen, 1995, 1998; Crowe and Meade, 2008; Laurens et al., 2016).

A critical constituent accompanying independence is accountability (Fischer, 1995a; Goodhart and Lastra, 2018). While central banks remain public institutions, they often fall outside the standard system of checks and balances because of the afforded independence. Ensuring accountability to the legislature and society at large helps to safeguard the proper conduct of monetary policy as well as to ensure the legitimacy and sustainability of the central bank’s power over monetary policy (Tucker, 2019).

We benefit from earlier studies constructing central bank independence indices (notably Grilli et al. (1991), and Cukierman et al. (1992)), but focus specifically on *monetary policy* independence and in the context of accountability. We further complement this literature by systematically accounting for both the legal arrangements (de jure) and the arrangements that exist in reality (de facto).⁸

We distill the joint Independence and Accountability pillar in the IAPOC metric into the following five sub-pillars:

1. *Delegation and Designation of Responsibility* covering the central bank’s statutory monetary policy mandate and the body(ies) responsible for monetary policy within the central bank.
2. *Mandated Goals and Numerical Targets* covering the goals assigned to monetary policy in the mandate and the existence and governance of any associated numerical targets.
3. *Integrity of the Monetary Policymaking Body* covering the integrity of the members of the monetary policymaking body, such as their terms of office, external affiliations, grounds and means for dismissal, and turnover rates.

⁸For an example of the de facto elements within the IAPOC metric, see the criteria on the integrity of the governor—3.1. in Table A1 in Appendix A.

4. *Financial Arrangements* covering governance aspects of the central bank’s financial setup, such as lending to the government, profit distribution, and recapitalization arrangements.
5. *Reporting and Oversight* covering the presence of accountability mechanisms, such as testimony to the legislature; and broad oversight, including periodic external reviews.

2.2.2. Policy and Operational Strategy

The second pillar of the IAPOC metric encompasses Policy and Operational Strategy which guides both monetary policy formulation—adjusting the tools based on the objectives and associated numerical targets—and implementation—adjusting the instruments in line with the policy stance.

A well-articulated ex-ante policy strategy facilitates policymaking by guiding sensible and consistent policy formulation and communication, and helps with the predictability and understanding of monetary policy (Blinder et al., 2001). Similarly, a clear and effective operational strategy helps to align market conditions with the announced policy stance, fosters market development and functioning, and limits implementation mistakes based on discretion (Bindseil, 2014, 2016).

In conceptualizing what constitutes a comprehensive *policy* strategy we benefit from the literature concerned with the design of monetary policy (Mishkin, 2007, 2011; Levin, 2014; Mishkin, 2017; Bernanke, 2017; Adrian et al., 2018; Al-Mashat et al., 2018; Svensson, 2018). In turn, for characterizing what constitutes a comprehensive operational strategy, we draw on the body of literature that sheds light on the importance and key features of modern operational strategies, such as Bindseil (2014, 2016). We complement these two strands of work with a perspective from EMs, where capacity constraints may be prominent and markets less developed (Batini and Laxton, 2007; Friedman and Kuttner, 2010; IMF, 2015; Berg et al., 2015; Berg and Portillo, 2018; Adam et al., 2018).

We narrow the Policy and Operational Strategy pillar within the IAPOC metric down to the following five sub-pillars:

1. *Objectives* covering the practical interpretation of the mandated goals (and if there are multiple objectives, the potential interactions between them).
2. *Numerical Targets* covering the definition of numerical targets (including an inflation target), how they map into the objectives, the time horizon over which they are to be met, the conditions for their revisions and any actual revisions.⁹
3. *Tools* covering the tools used to set the policy stance and how they are defined, the relationship of these tools with the objectives and numerical targets (and if there are multiple tools, the potential interactions between them).
4. *Policy Formulation* covering the stages of the decision-making process, such as

⁹Having an inflation target does not necessarily imply adopting an inflation-targeting regime.

inputs from a quantitative framework and staff analyses, how objectives and numerical targets guide policy formulation (and if there are multiple objectives and numerical targets, how they are balanced), and the extent to which policy formulation is forward-looking.

5. *Policy Implementation* covering the monetary policy instruments, including their mapping to individual outcomes, details of the instruments that foster a predictable and stable interbank market (e.g., standing facilities), and the joint functioning of the instruments.

2.2.3. Communications

Finally, the third pillar of the IAPOC metric captures Communications that convey decisions about the MPF and the policy stance as well as the underlying rationale to the public. Communication enhances the effectiveness of policy by reducing economic and financial uncertainty, shaping and anchoring market expectations, and may even serve as an additional policy lever (Blinder, 1999; Bernanke, 2004; Woodford, 2012; Blinder et al., 2008; Mishkin, 2017; Blinder, 2018). Recent emphasis has further been put on the joint design of communications and policy and operational strategies, given that the strategy anchors communications, while communications enhance the understanding and credibility of the strategy (Levin, 2014; Archer and Levin, 2018).

In devising Communications, in addition to *what* to communicate, *how* and *when* to do so is also key (Blinder et al., 2008). A clear, regular, and timely communication cycle helps the public understand the monetary policy stance and the economic outlook IMF (2015). In line with Policy and Operational Strategy, such communications center around the outlook for the main monetary policy objectives, and also cover the risks to the outlook taken into account in formulating monetary policy.¹⁰

We delineate the Communications pillar within the IAPOC metric along the following five sub-pillars:

1. *Communication Cycle* covering both the standard communication cycle, including the vehicles used and the frequency and regularity of communications; and the ad-hoc communication of major changes to the MPF (such as changes in objectives, numerical targets, or tools), their justification and, if temporary, the conditions that warrant the exit.
2. *Announcing and Explaining the Policy Stance* covering communication of monetary policy decisions about the policy stance that seek to announce and explain these decisions to the public, such as policy statements and press conferences.

¹⁰A related literature employs automated text analysis techniques to assess, for example, the readability, length, or tone of communication vehicles (Apel and Blix Grimaldi, 2012; Schonhardt-Bailey, 2013; Hansen et al., 2018; Benchimol et al., 2020). The IAPOC Communications pillar is concerned with the content and accessibility of communications rather than quantifying the real-time sentiment conveyed or the absolute length and evaluates Communications within the broader MPF.

3. *Monetary Policy Report* covering communication through a comprehensive, dedicated report (often called the Inflation Report) that further explains monetary policy decisions and their rationale.
4. *Publication of Data* covering the publication of relevant data—i.e., data related to the objectives, numerical targets, and tools, including forecasts.
5. *Stakeholder Inclusion* covering the extent to which communications are made accessible to various stakeholders, including through the language(s) in which information is provided, the technicality of language used, and whether research articles are disseminated.

3. The IAPOC Metric for Assessing Monetary Policy Frameworks

Unsal et al. (2022) design the IAPOC metric by formulating specific criteria corresponding to all sub-pillars of each of the three pillars of the MPF as defined in the previous section. These criteria, 225 in total, are presented in Appendix A. The IAPOC index is then constructed as information from countries’ central bank laws and websites are assessed against these criteria.

All countries are subject to the same criteria, irrespective of their level of development or income. Moreover, while the criteria can only be reasonably applied to countries with some scope for monetary policy (as mentioned before), no further distinction is made based on the monetary policy or exchange rate regime in place in a country. At the heart of this broad applicability of the IAPOC metric lies our principle-based approach, whereby we focus on the transparency, coherence, and consistency of MPFs.

3.1. Three Principles—Transparency, Coherence, and Consistency

We derive the criteria comprising the IAPOC metric based on three principles: (i) transparency, (ii) coherence, and (iii) consistency. *Transparency* refers to the provision of the information necessary for the public to understand the MPF and associated policy actions (Blinder et al. (2001)). *Coherence* concerns the extent to which the MPF either encapsulates logical features that are unequivocally desirable, such as timely and regular communications; or reflects strong consensus, such as having price stability as (one of) the primary objectives with an associated (medium-term) numerical inflation target and forward-looking policymaking. *Consistency* requires that the (ex-ante) Policy and Operational Strategy and (ex-post) Communications pillars are in accord in terms of the monetary policy objectives, numerical targets, and tools.

Ultimately, the consistency principle is meant to capture whether central banks do “what they say they do”. This principle is operationalized in the IAPOC metric by taking as given the objectives and numerical targets from Policy and Operational Strategy and the tools from Communications.¹¹

¹¹The only exception to this is that we use the IMF’s AREAER database as a supplementary

These three principles underpin the design of the criteria and therefore the IAPOC metric. For example, on the numerical targets for monetary policy, the IAPOC metric goes far beyond “checking the box” on whether a country has a numerical target or not. Instead, to determine whether the numerical target is a viable nominal anchor, the metric encapsulates various elements such as how the target is set and by who, the time-horizon, and whether the same target also features in Communications. More specifically, the criteria that capture the availability of information (e.g., whether the body responsible for setting the numerical targets is stated) are related to the transparency principle (T). In turn, the ones that capture desirable policy practices (e.g., the medium-term nature of the numerical target) are related to the coherence principle (CH). Finally, the criteria that capture whether the numerical targets featured in Communications coincide with those identified in Policy and Operational Strategy are related to the consistency principle (CS).

Explicitly accounting for transparency, coherence, and consistency within a unified metric is a distinct advantage of our work. At the same time, our principle-based approach allows to obtain standalone scores associated with each principle within the IAPOC index—IAPOC-transparency, IAPOC-coherence, and IAPOC-consistency. A large and growing literature has focused on constructing central bank, and, more recently, monetary policy transparency indices (Dincer and Eichengreen, 2008, 2014; Al-Mashat et al., 2018; Dincer et al., 2019). These indices, like the IAPOC index, are principle-based, but focus more narrowly on transparency.

3.2. Calculating The IAPOC Index

A set of possible pre-defined options is assigned to each of the criteria comprising the IAPOC metric. The options are designed to be self-evident and mutually exclusive to facilitate ease of assessment and objectivity. Each option is assigned a value between zero (minimum) and one (maximum), uniformly spread depending on the number of possible options. In the large majority of cases, simple yes/no or binary options are sufficient thanks to the granularity of the criteria.

Criteria are also purposely ordered to ease assessments. An indented criterion (seen in the multilevel numbering in Appendix A) may be scored zero or assessed with available information depending on the answer for the base criterion. This typically implies that the most general information, often associated with transparency, is assessed first. In some other cases, if the consistency is violated in the base criterion, the indented criteria are automatically scored zero. For example, if tools are not consistent with what are used in practice, Policy and Operational Strategy pillar does not assess superficially the transparency or coherency of the related criteria. Similarly, Communications pillar only evaluates transparency and coherency of numerical targets and objectives in policy decisions and other communication vehicles,

source for detecting the presence of an exchange rate-related tool. Unless a country is classified as free-floating or floating, it is deduced that an exchange rate tool is used (in addition to any tools identified through Communications) and hence is required to be featured throughout both Communications and Policy and Operational Strategy.

if and only if these are the same numerical targets and objectives as in ex-ante Policy and Operational Strategy (Table 1).

Table 1: Criteria for Consistency

Criterion	Type	Options and Scoring	
POLICY AND OPERATIONAL STRATEGY			
3. Tools			
3.1.3. Are these tools used for signaling policy stance consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4. Policy Formulation			
4.1.3. Are the tools relevant to the decision-making process consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.2.3. Are the tools covered in the description of policy formulation consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
5. Policy Implementation			
5.1.1. Are these instruments for policy implementation consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
5.2.1. Is the statement of the joint functioning of the tools and instruments consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
COMMUNICATIONS			
2. Announcing and Explaining the Policy Stance			
2.1.3.1. Are the objectives and numerical targets in the explanation consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
2.1.3.1.3. Are the tools in the explanation consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
2.1.3.1.3.2. Is there a discussion of how the objectives and numerical targets, including an inflation target, are to be achieved through the policy decisions?	De Facto	CS	Yes—1 No—0
3. Monetary Policy Report			
3.1.3.1. Are the objectives and numerical targets in the statement of expected outcomes consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
3.1.3.1.3. Are the tools in the statement of current policy actions consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
3.1.4.1. Are the objectives and numerical targets in the statement of past outcomes consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
3.1.4.1.3. Are the tools in the statement of past policy actions consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4. Publication of Data			
4.1.1. Does this include data on the objectives and numerical targets that is consistent with Policy and Operational Strategy, and on the tools that is consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.2.1.2.1. Are these tools consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.3.1. Are these tools and instruments consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0

Note: See Appendix A for the full set of criteria in the IAPOC metric.

For each country, the criteria are assessed by manually extracting the relevant information from the central bank’s laws and website. Specifically, for Independence and Accountability, we use the central bank’s law (and other applicable laws, such as the Constitution) for the *de jure* assessment, complemented with information

from the website and annual report for the *de facto* counterpart. For Policy and Operational Strategy, we rely primarily on monetary policy-related information contained on the central bank’s website and, when it exists, dedicated policy strategy and operations documentation. If the annual report contains “ex-ante” strategy, this is also tapped. Similarly, for Communications, we derive information in part from the central bank’s website—for ascertaining the communication cycle and the quantity and type of monetary policy-related publications, including data dissemination—and further use the content of all monetary policy press releases, decision announcements and explanations, and monetary policy/inflation reports.

For each country-year observation, a value is assigned to every criterion as described above. A score for each sub-pillar is then calculated as the unweighted average value of the criteria comprising that sub-pillar. Subsequently, a value for each pillar respectively is calculated as the unweighted average of its five constituent sub-pillars. Finally, the IAPOC index is calculated as the unweighted average of the three pillars.¹²

The information is collected, and the index is constructed, as an annual, end-of-period measure of MPFs.¹³ For historical assessments we use central banks’ archived websites to capture the relevant real-time information.¹⁴

4. The IAPOC Index

We construct the IAPOC index for 25 EMs and 13 AEs countries for 2007, 2010, 2013, 2016, 2018, and 2021 (Table 2).¹⁵

¹²We follow an unweighted approach to present the data in the clearest form. This also reflects, in our view, that there is no conceptual basis for some sub-pillars or pillars to carry more weight in contributing to the MPF. However, as the number of criteria in each sub-pillar differs, the implicit weights for individual criteria are varied.

¹³There are two exceptions where we do assessments throughout the year as opposed to the end-of-period; monetary policy communication vehicles and communication of the changes in the MPFs.

¹⁴We obtain archives from the Internet Archive’s Wayback Machine, available at: www.archive.org.

¹⁵2007 is the earliest time that this index can be constructed as information availability becomes problematic in earlier years. The missing observations are due to the availability of archived central bank websites.

Table 2: Country Sample

Advanced Economies (AEs)	Emerging Markets (EMs)	
Australia	Argentina	Mauritius
Canada	Armenia	Mexico
Czech Republic	Brazil	Pakistan
Euro Area	Chile	Peru
Iceland	China	Philippines
Israel	Colombia	Poland
Japan	Georgia	Russia
Korea	Hungary	Serbia
New Zealand	India	South Africa
Norway	Indonesia	Thailand
Sweden	Jamaica	Turkey
United Kingdom	Malaysia	Ukraine
United States		Uruguay

Note: We follow the IMF World Economic Outlook country groups classification.

By thoroughly characterizing all three pillars of the MPF, the resulting scope and granularity of the IAPOC index enable detecting novel properties of and patterns across MPFs. In particular, we can identify the drivers and changing properties of MPFs over time, and contrast MPFs in AEs and EMs.

All EMs fall a considerable way from zero, but on average have a lower IAPOC index compared to AEs (Table 3a). However, within the group of EMs, discrepancies are often large, with some countries' scores being much closer to the average for AEs while others obtain substantially less than the mean. Moreover, the variation across countries and over time is mainly attributable to the novel Policy and Operational Strategy and Communications pillars (Table 3b-d). The heterogeneity is again particularly large among EMs, reflecting their more dynamic nature of MPFs. In contrary, the Independence and Accountability pillar exhibits much less variation across countries and over time, with a similar distribution across the board. This might be in part due to the generally slow-moving legal and administrative processes that define de jure Independence and Accountability, masking potentially more rapid changes in the de facto counterpart.

Table 3: Summary Statistics of the IAPOC Index and Pillars

Variable	Mean	Range	Standard deviation		
			Overall	Between	Within
(a) IAPOC Index	0.60	[0.19,0.87]	0.15	0.12	0.08
AEs	0.72	[0.51,0.87]	0.07	0.05	0.05
EMs	0.59	[0.19,0.82]	0.15	0.12	0.09
(b) Independence and Accountability	0.53	[0.23,0.74]	0.10	0.09	0.05
AEs	0.56	[0.36,0.70]	0.09	0.08	0.04
EMs	0.53	[0.23,0.74]	0.11	0.10	0.06
(c) Policy and Operational Strategy	0.67	[0.07,0.98]	0.22	0.18	0.12
AEs	0.84	[0.55,0.98]	0.10	0.08	0.06
EMs	0.65	[0.07,0.94]	0.23	0.18	0.14
(d) Communications	0.61	[0.08,0.96]	0.17	0.14	0.10
AEs	0.74	[0.52,0.96]	0.10	0.07	0.07
EMs	0.60	[0.19,0.93]	0.17	0.13	0.11

Note: Data is annual with a total of 227 country-year observations. The panel is unbalanced. The mean, range and “overall” standard deviation are calculated over all countries and years in the sample. “Between” standard deviation provides a measure of the cross-sectional variation and is calculated as the standard deviation across countries in each year, averaged over all years. “Within” standard deviation captures variation over time and is calculated as the standard deviation within each country over time, averaged across all countries. The country groups follow Table 2.

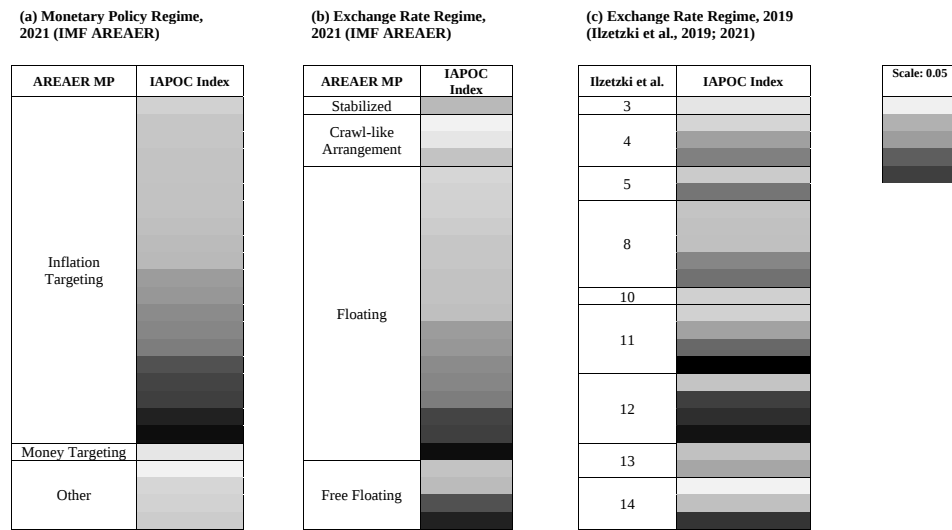
The scope and granularity of the IAPOC index, together with its broad applicability, enables a comparison of monetary policymaking both within the same monetary policy or exchange rate regime and across different regimes. To illustrate this point, Figure 2a compares the IAPOC index with three commonly used regime classifications—the monetary policy and exchange rate regime classification in the IMF’s AREAER (columns a and b), and the (fine) exchange rate regime classification in Ilzetzki et al. (2019, 2021) (column c). In terms of monetary policy regimes (Figure 2aa), the variation across countries within inflation-targeting is large, with differences up to about 0.26, respectively, in the IAPOC index (in 2021). Even more strikingly, scores for countries in the “other” classification (a residual category) vary, reflecting the considerable differences in terms of the approach to monetary policy taken by countries lumped into this category. It is evident that the IAPOC index provides a meaningful refinement of regime classifications, including for those regimes that provide very little information content.

Before looking into the IAPOC index in more detail, we look how the index and its pillars relate to effectiveness of monetary policy in providing macroeconomic stability. The IAPOC index is negatively and significantly correlated with inflation and inflation expectations, and correlations are particularly strong for Policy and Operational Strategy and Communications pillars (Figure 3 and Table 4).¹⁶

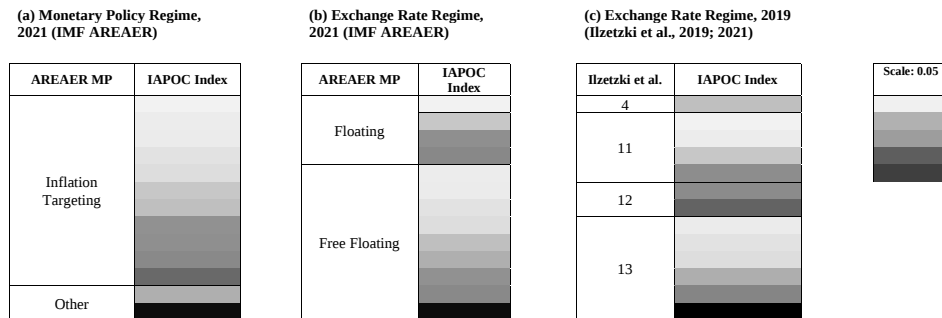
¹⁶The IAPOC and its pillars are also negatively and significantly correlated with measures of inflation anchoring based on (i) the standard deviation of the shocks to the long-run trend suggested as in Mertens (2016), and (ii) the time varying relation between one-year ahead inflation expectations and the 5-year ahead inflation expectations.

Figure 2: The IAPOC Index versus Monetary Policy and Exchange Rate Regime Classifications

(a) EMs



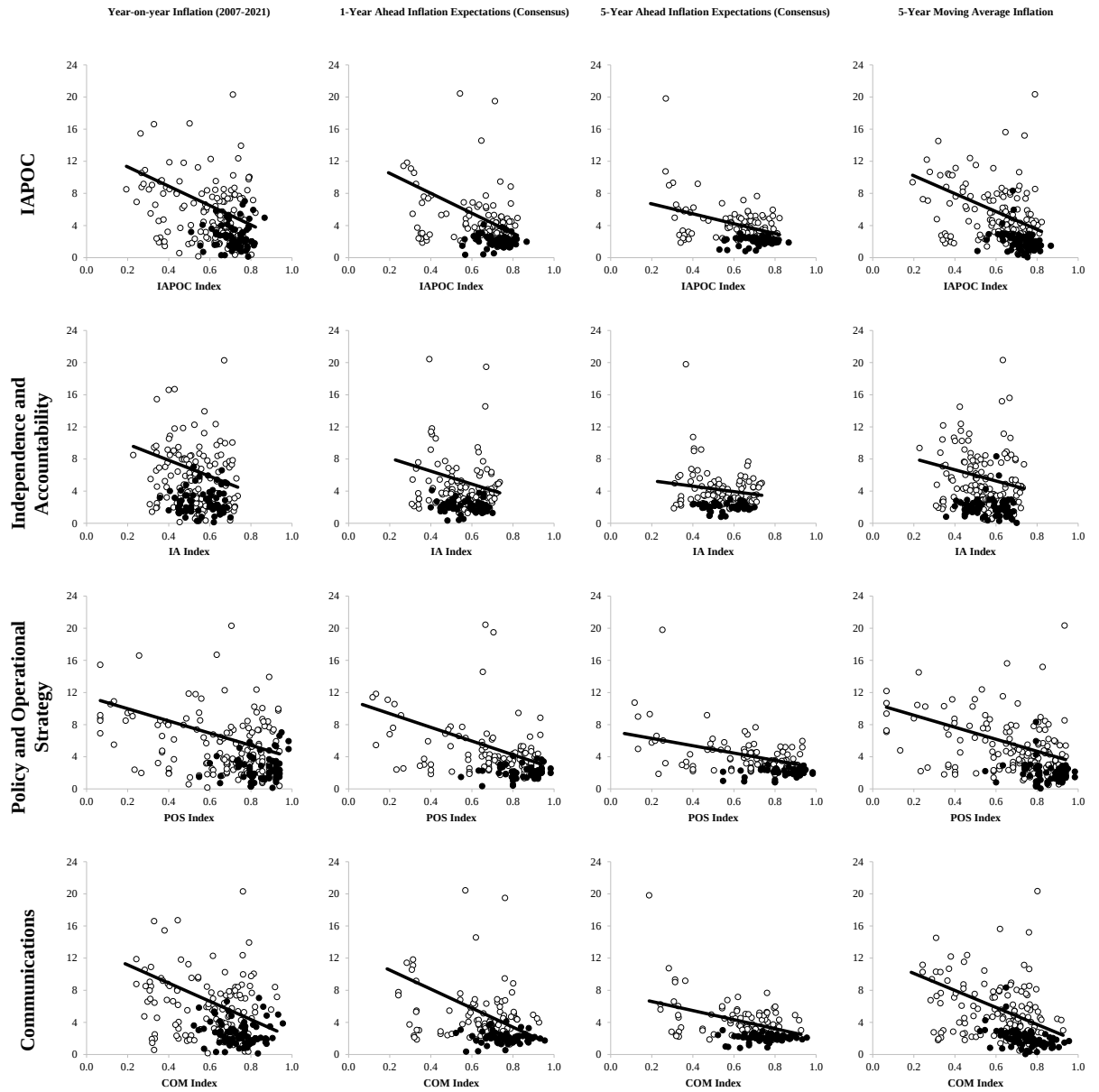
(b) AEs



Source: IMF's AREAER (2021), Ilzetzi et al. (2019, 2021), and authors' calculations.

Note: Each row represents a different country. Each shade represents an increment of 0.05 (a 5 percent change) in the IAPOC index, where the minimum is 0.27. Therefore, darker shades represent a higher IAPOC score. Under the monetary policy regimes, "Other" in IMF AREAER is a residual category used when there is no explicitly stated nominal anchor, when countries monitor various indicators, or no relevant information is available. The fine classification in Ilzetzi et al. (2019, 2021) ranges from 1 (no separate legal tender) to 15 (dual market in which parallel market data is missing). For values in between, higher numbers indicate more flexibility, with 13 "freely floating" and 14 "freely falling". As the fine classification for 2018 onwards in Ilzetzi et al. (2021) is available only at monthly frequency, we take the most frequent classification value over those years. The most recent year with available data from the comparing indicators is used to compare to the last year with 2021 IAPOC data (2020 in IMF's AREAER (2021) and 2019 in Ilzetzi et al. (2019, 2021)).

Figure 3: The IAPOC Index versus Inflation and Inflation Expectations in AEs and EMs



Source: Consensus Survey, WEO, Authors' calculations.

Note: The figures plot the IAPOC index and its pillars versus different measure of the inflation and inflation expectations. We use Consensus Survey for 5-year ahead inflation expectations which is available for 33 countries in the sample. The hollow dots represent the emerging market economies, the black solid dots are advanced economies.

Table 4: Correlation of the IAPOC Index versus Inflation and Inflation Expectations in AEs and EMs

	Correlations in Levels		
	5-Year Moving Average Inflation	5-Year Ahead Inflation Expectations (33 Countries)	Trend Inflation
IAPOC	-0.47***	-0.50***	-0.38***
Independence and Accountability	-0.25***	-0.17**	-0.23***
Policy and Operational Strategy	-0.46***	-0.53***	-0.33***
Communications	-0.48***	-0.51***	-0.42***

Source: Consensus Survey, WEO, Authors' calculations.

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. We use Consensus Survey for 5-year ahead inflation expectations which is available for 33 countries in the sample. The trend inflation is calculated following Stock and Watson (2007) using quarterly inflation series starting from 2000.

4.1. Evolving Monetary Policy Frameworks in EMs

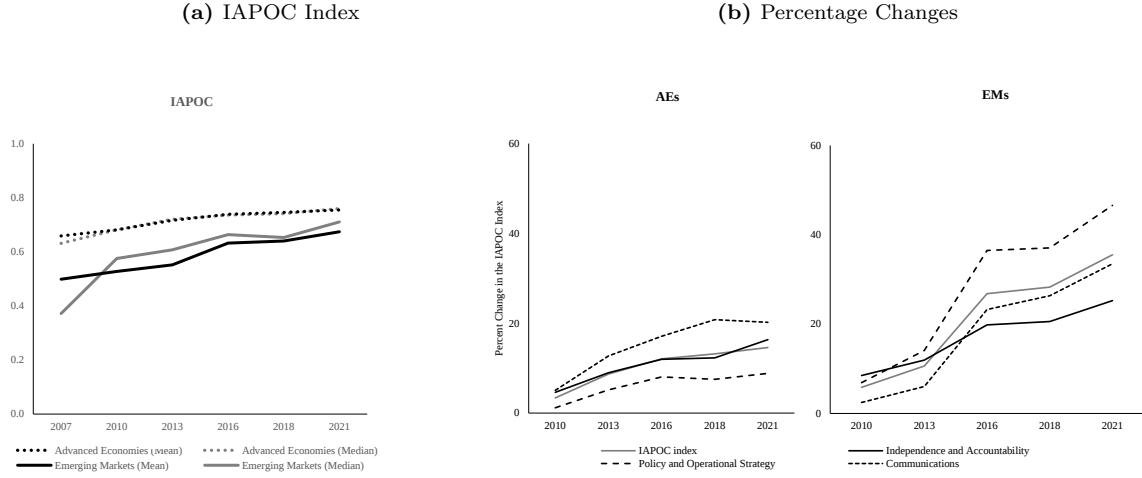
The dynamic nature of the IAPOC index, driven by its scope and granularity, provides new insights into how MPFs have evolved over time and where remaining gaps exist in EMs. The IAPOC index shows that, from 2007 to 2021, MPFs were strongly evolving and generally improving in EMs in terms of the Policy and Operational Strategy and Communications pillars (Figure 4a).¹⁷ MPFs in AEs also improved during this period, particularly Communications, but by a smaller magnitude, reflecting their high starting point. While the gaps across countries have narrowed down over time, EMs still lag behind the AEs across three IAPOC pillars (Figure 4b). Figure 5 displays the detailed cross-country heterogeneity, highlighting how emerging markets such as Uruguay, India, and Ukraine have most strikingly strengthened their frameworks, whereas there was a deterioration in Argentina and Hungary.

4.2. Undercovering Key Gaps in Policy and Operational Strategy and Communications

The IAPOC index helps uncover common challenges in improving Policy and Operational Strategy in EMs. For example, they encounter difficulties with mapping their policy objectives into the numerical targets, which they still tend to revise frequently in the absence of a comprehensive review (in *Numerical Targets*). A critical area where EMs generally underperform is in Policy Formulation, encompassing the data and analysis used in decision-making processes, potentially indicative of capacity limitations. For instance, it's usually unclear whether monetary policymakers consider staff analyses and judgments, or if a quantitative framework is employed in policy analysis and formulation. Furthermore, there's often ambiguity regarding whether and how the projected trajectory of the policy stance is considered in policy

¹⁷Note that, in a handful of individual country cases, the IAPOC index detects deteriorations.

Figure 4: IAPOC Index and Its Evolution



Note: The figures plot the cumulative change in the IAPOC index for each country group, defined as the percent change in the average score of the respective group. The country groups follow Table 2.

development, or if the formulation process includes assessments of future risks and contingency planning.

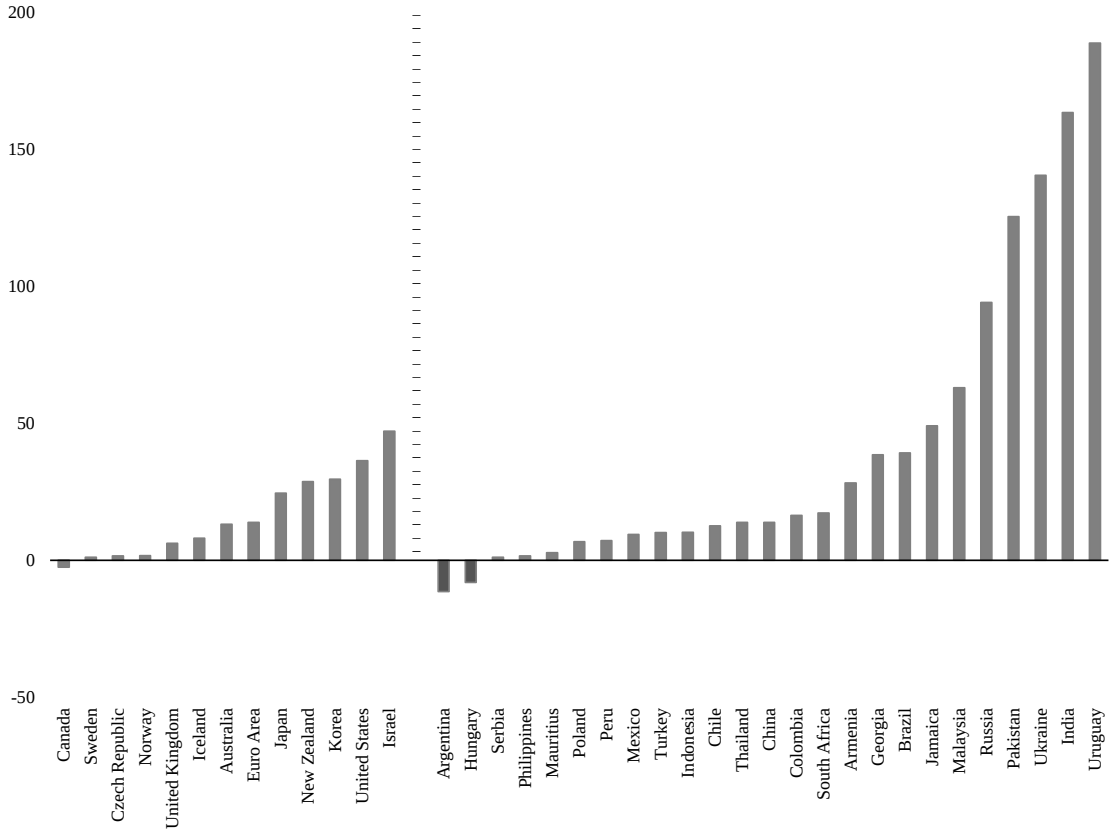
In Communications, EMs made forceful progress across all dimensions since 2007 (Figure 6). In 2007, many EMs often lacked some of the most fundamental elements of communications such as policy announcements or a monetary policy report. Most of them now announce and explain policy decisions promptly (at a pre-set time) after each policy meeting, via a press release and a verbal press conference with questions from the floor (in *Announcing and Explaining the Policy Stance*). They also have a well-defined monetary policy report that elaborates on current and past policy actions (in *Monetary Policy Report*).

However, there is plenty of scope for further improvement of Communications for EMs. Decision announcements and the monetary policy reports still do not generally provide a forward-looking view. It has been particularly challenging for some EMs to establish a regular communication cycle around monetary policy decisions (in *Communication Cycle*) and to ensure consistency among ex-ante objectives and numerical targets and the ones that are announced or reported ex-post. In addition, there are issues with the publication of key data for monetary policymaking (i.e., inflation and inflation expectations) as well as the forecast (in *Publication of Data*).

4.3. Prolonged Challenges in De Facto Independence and Accountability

In contrast to the dynamic nature of the Policy and Operational Strategy and Communications pillars, Independence and Accountability within the IAPOC index is relatively persistent across the board. Nevertheless, AEs and EMs adopted various key changes since 2007 (Figure 6). For example, they clarified the roles, powers, and

Figure 5: IAPOC Changes (2007* - 2021, in percent)

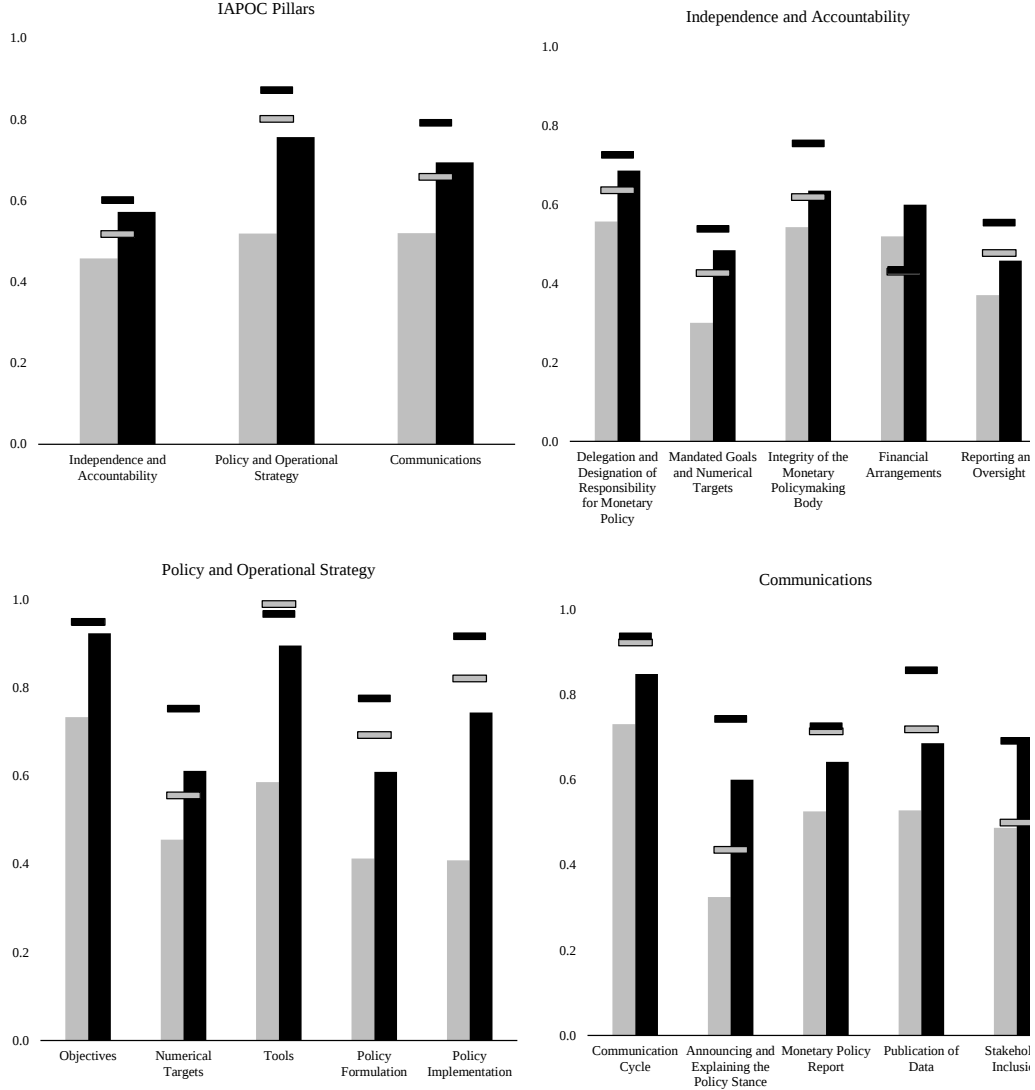


Note: The figure plots the cumulative change in the IAPOC index for advanced economies (left) and emerging market economies (right), defined as the percent change in the average score between 2007 (or the first assessment year depending on data availability) and the last.

decision-making procedures of the central bank and the monetary policy decision-making body (in *Delegation and Designation of Responsibility*); and enhanced the role for price stability and numerical targets in defining central banks' goals for monetary policy, including providing more clarity on who sets numerical targets (in *Mandated Goals and Numerical Targets*). They also made progress in public disclosure of decisions, meeting minutes, and voting records (in *Reporting and Oversight*).

More interestingly, across country groups, these enhancements stem predominantly from changes in de facto rather than de jure arrangements, perhaps reflecting the fact that central bank laws typically cannot be changed or rescinded quickly. Indeed, de jure aspects of Independence and Accountability within the IAPOC index have improved only slightly over time and across countries (Figure 7). In various cases, however, limited (or lack of) legal backing did not stop countries from adopting more advanced policy practices. In AEs, the de jure score is on average slightly less than in EMs (0.53 vs. 0.56), but their de facto score is about 20 percent higher than their EM counterparts (0.68 vs. 0.56). Nevertheless, there have been improvements in de facto Independence and Accountability in EMs too. For example, one-third of

Figure 6: IAPOC Pillars and Sub-pillars in EMs (2007 - 2021)



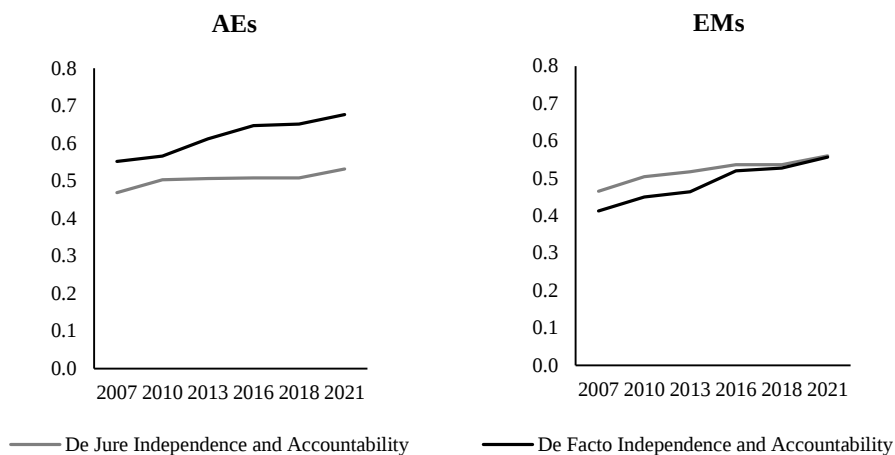
Note: The figure plots the IAPOC index and its subpillars for EMs at 2007 (light shaded) and 2021 (dark shaded). The line markers are corresponding AEs scores.

the countries identify the decision-making body specifically responsible for monetary policy in practice, despite the lack of an explicit legal basis for this body. Similarly, while less than half of all countries legally require the publication of monetary policy decisions, most do so in practice. With these improvements, on average across EMs, de facto Independence and Accountability have moved closer to their de jure counterpart.

However, there are also instances where the actual practice of monetary policy in EMs diverges from its legal underpinnings in undesirable ways. For instance, in terms of the integrity of the governor and the monetary policymaking body, the de facto implementation of the law often falls short. It is not uncommon for the current governor, their predecessor, or members of the monetary policy committee

to be dismissed before the end of their legally specified terms. Regarding legal financial arrangements with the government, central banks are typically prohibited from directly lending to the government, and there are usually specific limits on the distribution of profits. Yet, in practice, many EMs continue such practices on a discretionary basis. Similarly, the legal framework often outlines conditions under which numerical targets can be adjusted, but these provisions are occasionally disregarded in practice. Overall, the de facto Independence and Accountability in EMs still significantly lag behind that in AEs, with a wider distribution indicating substantial heterogeneity among countries (Figure 8).

Figure 7: IAPOC De Jure versus De Facto in Independence and Accountability



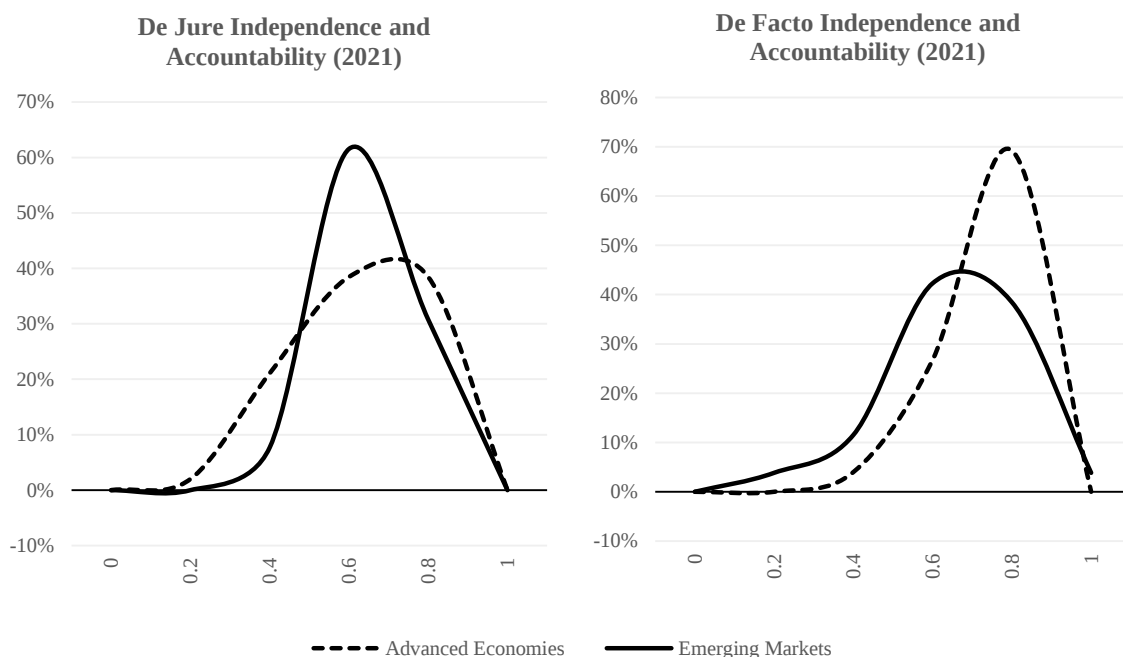
Note: De jure and de facto scores are calculated considering only de jure and de facto criteria, respectively. The scores for country groups are unweighted averages. The country groups follow Table 2.

5. EMs' Kryptonite: Inconsistencies within Monetary Policy Frameworks

By incorporating all three principles, the IAPOC index provides further novel insights into MPFs and the differences between country groups. The progresses along all three principles in EMs over the past decade has led to a narrowing of the gaps with respect to AEs. Nevertheless, coherence and especially consistency within MPFs still lag quite far behind in EMs.

One notable reason for limited consistency across EMs seems to be the way they move beyond standard monetary policy orthodoxy towards more heterodox approaches. Some EMs in our sample explicitly state their strategy relies on multiple objectives (such as growth- or exchange rate-related objectives, in addition to a price stability-related objective) and multiple monetary policy tools (such as asset purchases, foreign exchange interventions, or monetary aggregate targets, in addition to the policy interest rate). While such approaches do not necessarily need to

Figure 8: IAPOC De Jure versus De Facto in Independence and Accountability Distributions (2021)



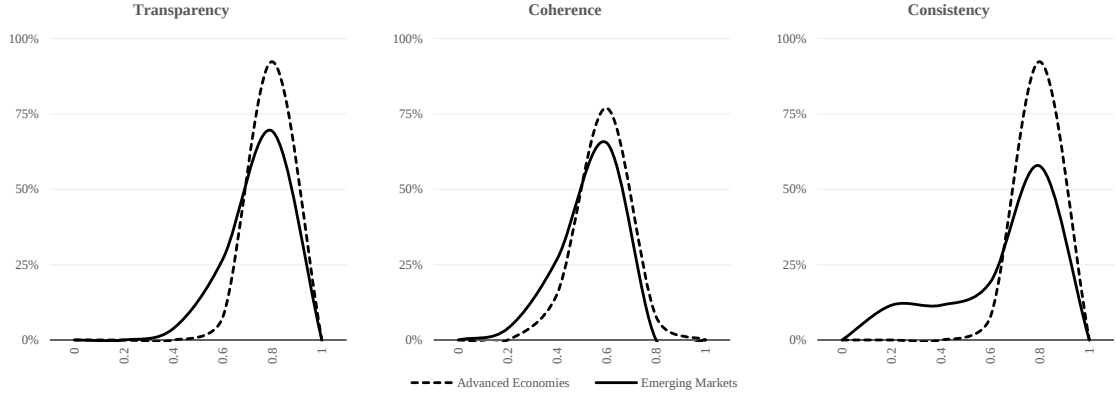
Note: De jure and de facto scores are calculated considering only de jure and de facto criteria, respectively. The country groups follow Table 2.

jeopardize the integrity of the MPF, ensuring consistency across multiple objectives and tools has so far been a challenge across EMs (Figure 9). For example, it is often not explained how these various objectives and tools relate to and are jointly balanced within the MPF and how trade-offs are managed when they arise.

Some other EMs occasionally divert from their objectives (even numerical targets) and tools, and adopt additional ones without a systematic framework, but instead take a meetings-to-meetings approach. In these cases, for example, monetary policy decision announcements could be focused on current account and growth, with no explicit reference or link to the inflation objective or the numerical target, despite the sole inflation objective in the Policy and Operational Strategy. Similarly, tools used in practice sometimes do not match the ex-ante exposition of policy formulation or are not explained why and how they are used. For example, several EMs intervene in the exchange rate market, sometimes for good reasons, but they often do not explain ex-ante why they adopt this approach and how (in principle) they plan to use this tool.

We hypothesize that there could be two key reasons why some EMs still struggle with achieving consistency in monetary policymaking. First, when de facto Independence and Accountability are weak, there could be more room for political influence in shaping the central banks' Policy and Operational Strategy towards substandard practices, which often leads to central banks adopting new objectives and tools

Figure 9: Transparency, Coherency, Consistency, 2021, AEs vs. EMs



Source: Unsal et al. (2022)

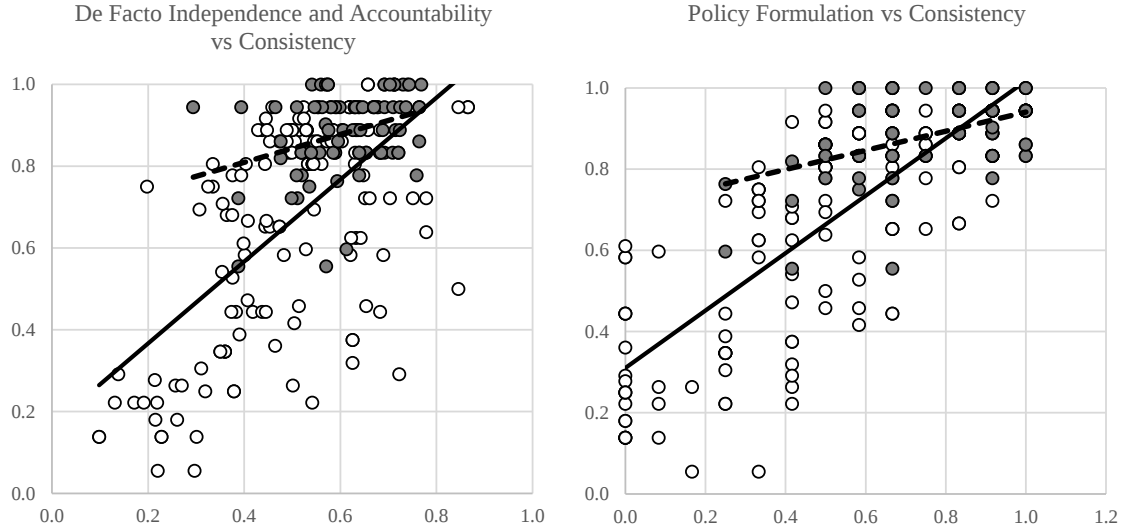
Note: The figures plots the IAPOC Consistency with respect to the index score for de factor Independence and Accountability, and Policy Formulation (sub-pillar 4 in Policy and Operational Strategy). The trend lines are calculated for AEs (dotted) and EMs (solid line) separately.

without sound reasoning or feasibility. Even if that is not the case, when faced with shocks, which are common in EMs, political influence may resurface to intervene in policy formulation and implementation, pushing the central bank to deviate from its framework for prolonged periods. This follows Bernanke (2017) and Posen (2017) who argue that ensuring policy continuity and consistency over time might be more challenging under external influence.¹⁸ Indeed, across EMs, the correlation of Consistency with de facto Independence and Accountability is 0.6, and with its de jure counterpart is about 0.35 (Figure 10). This is in contrast to AEs, where the correlations are 0.3 and 0, respectively.

Second, data and capacity constraints could also impede consistency. For instance, in the area of Policy Formulation (sub-pillar 4 under the Policy and Operational Strategy), the IAPOC metric explicitly considers whether and how various data and quantitative approaches are utilized in policy formulation. It examines whether policy formulation accounts for the outlook of objectives and numerical targets, the future path of policy, or risks and contingencies, among other factors. Given the highly technical and time-sensitive nature of monetary policymaking, weaknesses in policy formulation may manifest as central banks experimenting with different approaches, particularly when faced with shocks. In our sample, the correlation between the Policy Formulation and Consistency is about 0.8 for EMs, as opposed to 0.45 in AEs (Figure 10).

¹⁸See also Blinder (1999) and Alesina and Stella (2010) on this point.

Figure 10: Consistency: Correlations with De facto Independence and Accountability and Policy Formulation, 2007-2021, AEs and EMs



6. Diverse Responses of EMs' to Taper Tantrum and the COVID-19 shock

To look into how MPFs, and especially inconsistencies, influence the effectiveness of monetary policy in EMs, we examine the responses of inflation expectations (both at 1 and 5 year) during the Taper Tantrum and the COVID-19 shock. Given the low frequency of our data, we analyze the annual inflation expectations for two years before and after the shocks (2013 and 2022, respectively) by differentiating EMs with lower index scores.

During both the Taper Tantrum and the COVID-19 shock periods, EMs with weaker MPFs, as indicated by lower IAPOC scores, underperformed compared to the entire sample. In these instances, one-year inflation expectations surged almost three times higher following the Taper Tantrum, and doubled after the COVID-19 shock (Figure 11).¹⁹ When looking at five-year inflation expectations, the difference between the two groups was again evident.

EMs with lower Consistency were particularly more affected during the COVID-19 episode. The influence of weaker Policy Formulation became more significant in creating disparities in inflation expectations following the Taper Tantrum. However, the impact of Consistency, along with de facto Independence and Accountability, and Policy Formulation, was much more pronounced following the COVID-19 shock. This trend was evident at both the 1-year and 5-year horizons.

¹⁹This aligns with the findings of Kalemli-Özcan and Unsal (2023), who examined the responses of EMs to monetary policy shocks in the United States, distinguishing between low and high IAPOC cases.

Figure 11: Inflation Expectations under under Taper Tantrum and Covid-19 shocks

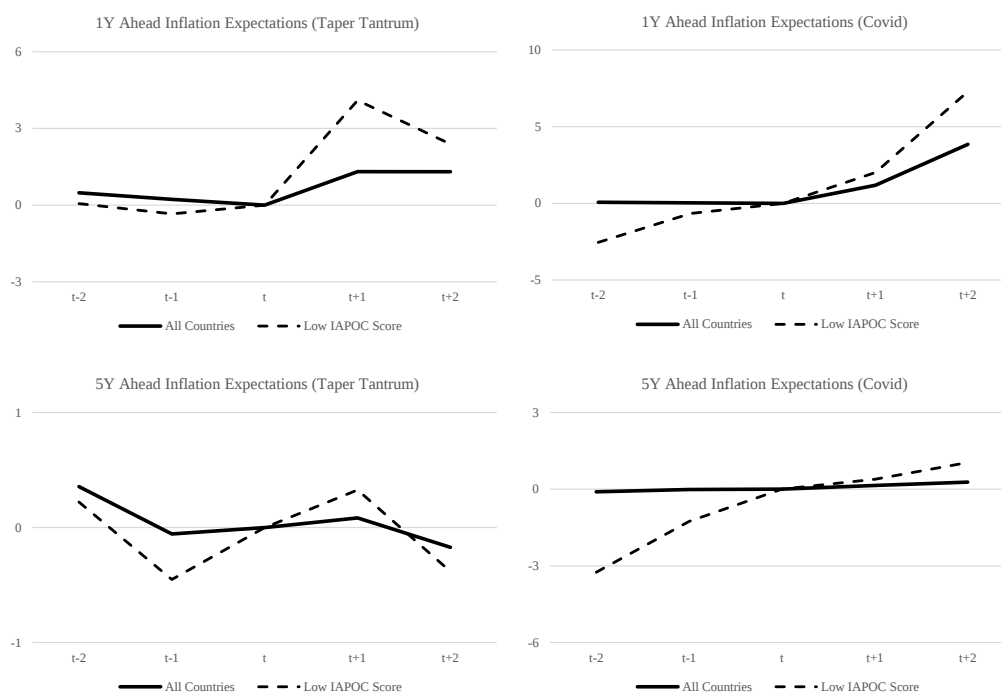
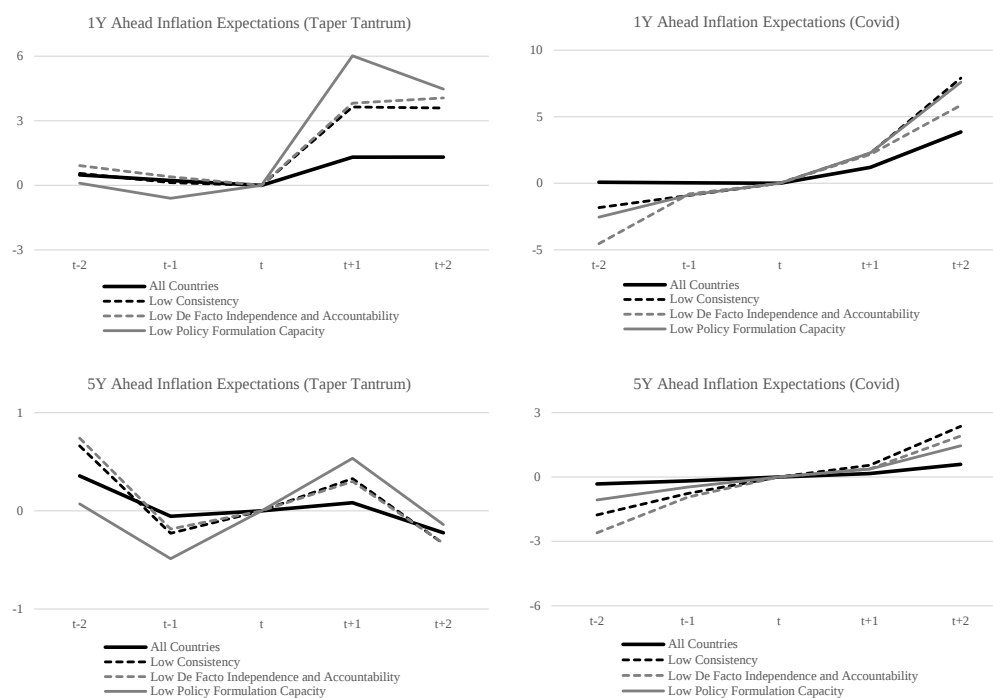


Figure 12: Inflation Expectations underunder Taper Tantrum and Covid-19 shocks



7. Case Studies: Argentina and Turkey vs. Brazil and Indonesia

We present case studies from EMs illustrating two examples of less successful or challenging approaches (Argentina and Turkey), followed by two examples of effective practices (Brazil and Indonesia). A close look at these four EM cases offers interesting insights into the varied ways in which inconsistencies, along with other elements of the Monetary Policy Frameworks (MPFs), can deteriorate or improve over time, highlighting the dynamic nature of monetary policy in different economic environments. Appendix B provides further information on how the IAPOC pillars and sub-pillars, as well as de jure and de facto Independence and Accountability, and Consistency, have evolved in these countries. Figures XX-YY below summarize some of this information.

In Argentina and Turkey, there was significant, though not steady, progress in improving MPFs in many dimensions, including Policy and Operational Strategy, Consistency, and de facto Independence and Accountability. For Argentina, the progress in Consistency was particularly remarkable, mainly reflecting its low base. However, the situation markedly changed for these countries between 2018 and 2021. During this period, their frameworks weakened in various key aspects, with Consistency experiencing almost a 50 percent decline. In Argentina, the deterioration was widespread across the MPF, affecting other principles like Coherence. In Turkey, the decline was more nuanced, primarily evident through Consistency, as the policies implemented significantly deviated from the stated framework.

(To be continued)

Figure 13: IAPOC Changes (2007* - 2018 and 2018 - 2021, in percent)

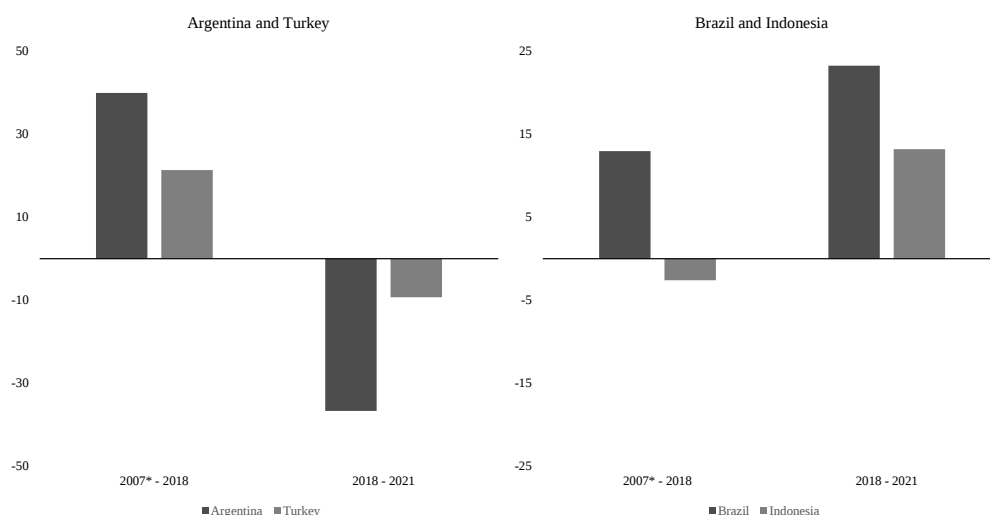


Figure 14: Policy and Operational Strategy Changes (2007* - 2018 and 2018 - 2021, in percent)

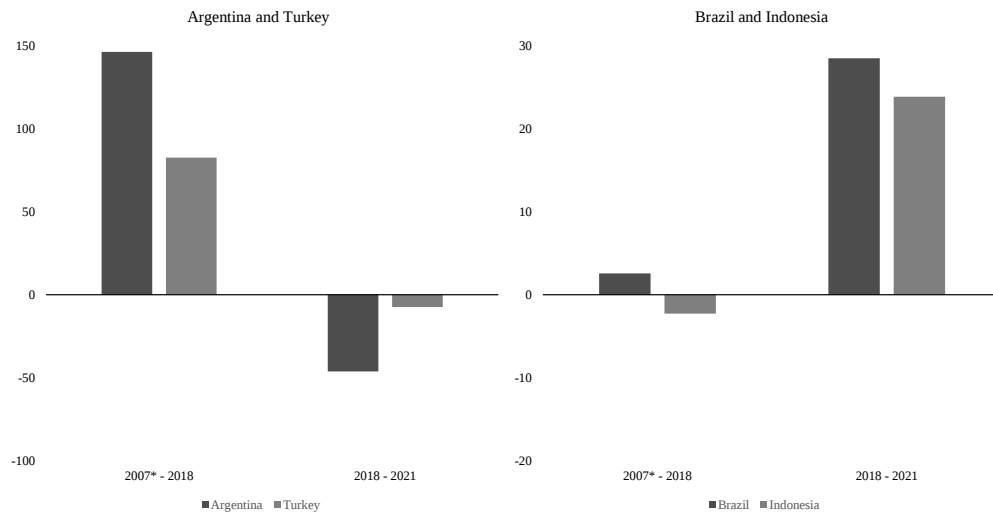


Figure 15: De Facto Independence and Accountability Changes (2007* - 2018 and 2018 - 2021, in percent)

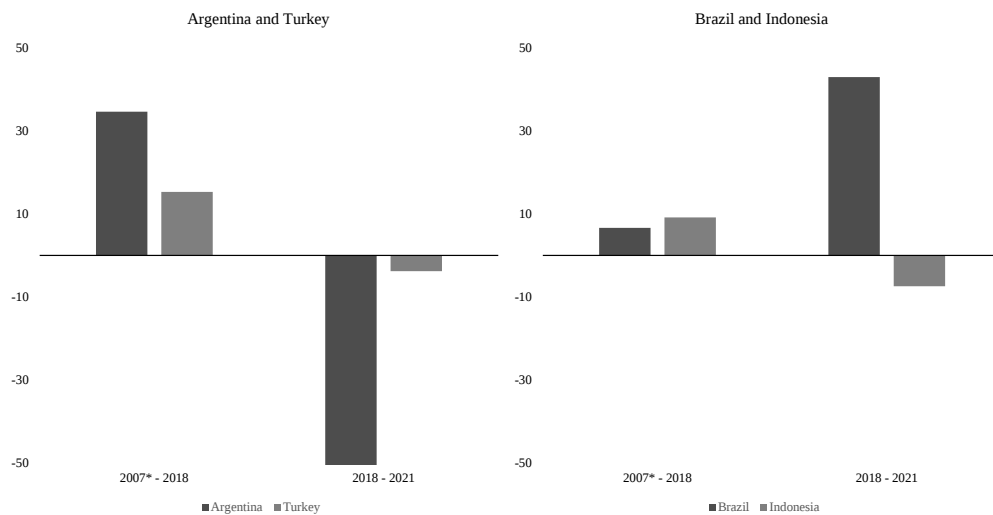
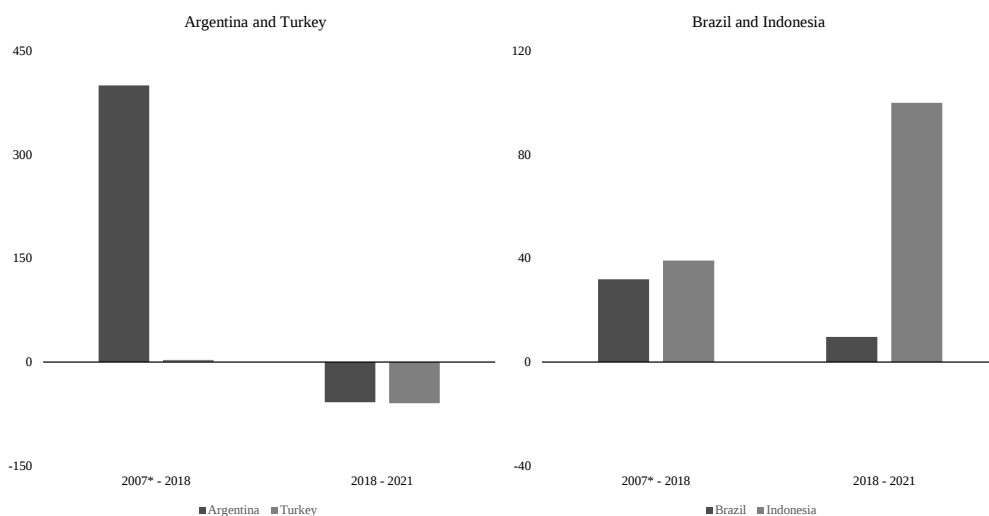


Figure 16: Consistency Changes (2007* - 2018 and 2018 - 2021, in percent)



8. Conclusion

We construct a metric that provides a multidimensional characterization of MPFs, covering Independence and Accountability, Policy and Operational Strategy, and Communications. Following Unsal et al. (2022), we derive criteria that jointly establish the transparency, coherence, and consistency of MPFs. The resulting IAPOC index is subsequently constructed for 25 EMs and 13 AEs from 2007 to 2021, using public information systematically collected from central banks' laws and websites.

Our work shifts the focus away from monetary policy or exchange rate regime classifications by comprehensively covering policy design, implementation, and communications within the MPF. We argue that this progress toward a multidimensional view of MPFs, as captured by the IAPOC index, is key for EMs, for which the existing indices and classifications fall short of capturing the varied, heterodox, and fast-changing nature of monetary policymaking.

We show that EMs have strongly improved their MPFs in the last 15 years, especially in terms of novel Policy and Operational Strategy and Communications. However, persistent inconsistencies remain a major weakness in these MPFs: their "kryptonite". We argue that low de facto Independence and Accountability, coupled with capacity constraints and weakness in policy formulation, could be a key underlying reason for prevalent inconsistencies within MPFs in EMs between their stated frameworks and policy actions. Such deviations often intensified for prolonged periods during the 2013 Taper Tantrum and the 2021 COVID-19 shock, and have led to higher inflation and inflation expectations in many EMs. This applies not only to well-known cases like Argentina and Turkey, where inflation has gone out of hand,

but also to a larger number of EMs. Conversely, some emerging markets are adopting more sound practices, effectively clarifying and refining their frameworks. To preserve the hard-won credibility, it is crucial for these central banks to further insulate from political pressures and improve capacity constraints on data and analysis, which would allow them to adhere the norms of sound monetary policymaking even in times of stress.

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Appendix

A. The IAPOC Metric

The IAPOC metric includes a total of 225 criteria together with pre-defined options.

Table A1: Criteria for Independence and Accountability

Criterion	Type		Options and Scoring	
INDEPENDENCE AND ACCOUNTABILITY				
1. Delegation and Designation of Responsibility				
1.1. By law, is the central bank empowered to formulate and implement monetary policy? ⁱ	De Jure	CH	Yes—1 No—0	
1.1.1. By law, is it stated that the central bank is prohibited from taking instructions from any external party when formulating and implementing monetary policy?	De Jure	T	Yes—1 No—0	
1.1.1.1. By law, if the central bank is not prohibited from taking instructions from any external party in formulating and implementing monetary policy, is it explicitly allowed?	De Jure	CH	No—1 Yes—0	
1.1.2. By law, is it stated that government overrule regarding monetary policy is prohibited?	De Jure	T	Yes—1 No—0	
1.1.2.1. By law, if government overrule regarding monetary policy is not prohibited, is it explicitly allowed?	De Jure	T	No; or yes but it is only possible, subject to listed and demanding formal procedures—1 Yes, under other circumstances—0	
1.2. By law, is it stated which body(s) is responsible for formulating monetary policy within the central bank?	De Jure	T	Yes—1 No—0	
1.2.1. By law, is a single body identified?	De Jure	CH	Yes—1 No—0	
1.2.2. By law, is this body(s) responsible solely for formulating monetary policy?	De Jure	CH	Yes—1 No—0	
1.2.3. By law, is this body(s) a committee rather than an individual?	De Jure	CH	Yes—1 No—0	
1.2.3.1. By law, is it stated what the decision-making procedures of this body(s) are? ⁱⁱ	De Jure	T	Yes—1 No—0	
1.2.3.1.1. By law, are decisions taken by the committee rather than an individual?	De Jure	CH	Yes—1 No—0	
1.2.3.1.1.1. By law, if decisions are taken through voting, is it stated who has the casting vote?	De Jure	T	Yes—1 No—0	
1.2.3.1.1.1.1. By law, does a government official have the casting vote?	De Jure	CH	No—1 Yes—0	
1.2.3.2. By law, is it stated who the chairperson of this body is?	De Jure	T	Yes—1 No—0	
1.2.3.2.1. By law, is the chairperson a government official?	De Jure	CH	No—1 Yes—0	
1.2.4. By law, is it stated what the frequency of monetary policymaking meetings are?	De Jure	T	Yes—1 No—0	
1.2.4.1. By law, what is the specified frequency?	De Jure	CH	At least quarterly—1 Less frequently or not at a fixed frequency—0	
1.3. In practice, is it stated which body(s) is responsible for formulating monetary policy within the central bank?	De Facto	T	Yes—1 No—0	
1.3.1. In practice, is this a single body?	De Facto	CH	Yes—1 No—0	
1.3.2. In practice, is this body(s) responsible solely for formulating monetary policy?	De Facto	CH	Yes—1 No—0	
1.3.3. In practice, is this body(s) a committee rather than an individual?	De Facto	CH	Yes—1 No—0	
1.3.3.1. In practice, is it stated what the decision-making procedures of this body are?	De Facto	T	Yes—1 No—0	
1.3.3.2. In practice, is it stated who the chairperson of this body is?	De Facto	T	Yes—1 No—0	

ⁱMonetary policy formulation comprises devising the appropriate settings for and taking decisions on the tools.

ⁱⁱDecision-making procedures include the quorum and voting rules for monetary policymaking meetings.

Table A1: Criteria for Independence and Accountability (Continued)

Criterion	Type	Options and Scoring
1.3.3.1.1. In practice, are decisions taken by the committee rather than an individual?	De Facto CH	Yes—1 No—0
1.3.3.1.1.1. In practice, if decisions are taken through voting, is it stated who has the casting vote?	De Facto T	Yes—1 No—0
1.3.3.1.1.1.1. In practice, does a government official have the casting vote?	De Facto CH	No—1 Yes—0
1.3.3.2.1. In practice, is the chairperson a government official?	De Facto CH	No—1 Yes—0
1.3.4. In practice, is this body(s) the same as the legally responsible monetary policymaking body?	De Facto CH	Yes—1 No—1
1.3.5. In practice, is it stated what the frequency of monetary policymaking meetings are?	De Facto T	Yes—1 No—0
1.3.5.1. In practice, what is the frequency of monetary policymaking meetings?	De Facto CH	At least quarterly—1 Less frequently or not at a fixed frequency—0
2. Mandated Goals and Numerical targets		
2.1. By law, is it stated what the goal(s) of monetary policy is?	De Jure T	Yes—1 No—0
2.1.1. By law, is price stability (one of) the goal(s)?	De Jure CH	Yes—1 No—0
2.2. By law, is it stated that there is a numerical monetary policy target?	De Jure T	Yes—1 No—0
2.2.1. By law, is it stated which body(s) is responsible for setting the numerical monetary policy target(s)?	De Jure T	Yes—1 No—0
2.2.1.1. By law, who sets the numerical monetary policy target(s)?	De Jure CH	The central bank and the government through joint consultations—1 The central bank or government alone—0.5 An individual—0
2.2.2. By law, is it stated how frequently the target(s) may be revised?	De Jure T	Yes—1 No—0
2.2.2.1. By law, how frequently may the target(s) be revised?	De Jure CH	At a fixed, low frequency, once every five or more years— 1 More Often—0
2.3. In practice, is it stated that there is a numerical monetary policy target?	De Facto T	Yes—1 No—0
2.3.1. In practice, is it stated which body is responsible for setting the numerical monetary policy target(s)?	De Facto T	Yes—1 No—0
2.3.1.1. In practice, who sets the numerical monetary policy target(s)?	De Facto CH	The central bank and the government through joint consultations—1 The central bank or government alone—1 An individual—0
2.3.2. In practice, is it stated how frequently the target(s) may be revised?	De Facto T	Yes—1 No—0
2.3.2.1. In practice, how frequently may the target(s) be revised?	De Facto CH	At a fixed, low frequency, once every five or more years— 1 More Often—0
3. Integrity of the Monetary Policymaking Body		
3.1. Integrity of the Governor		
3.1.1. By law, is it stated who appoints the governor?	De Jure T	Yes—1 No—0
3.1.1.1. By law, is the governor appointed by a group rather than an individual?	De Jure CH	Yes—1 No—0
3.1.2. By law, is it stated how long the governor's term of office is?	De Jure T	Yes—1 No—0
3.1.2.1. By law, how long is the governor's term of office?	De Jure CH	At least 5 years—1 Less than 5 years—0
3.1.2.2. In practice, did the current governor's predecessor fill the full legal term of office? ⁱⁱⁱ	De Facto T	Yes—1 No—0

ⁱⁱⁱIf the current Governor is serving a second or higher term, then he/she is his/her own predecessor.

Table A1: Criteria for Independence and Accountability (Continued)

Criterion	Type		Options and Scoring
3.1.3. By law, is it stated whether the governor may be reappointed?	De Jure	T	Yes—1 No—0
3.1.3.1. By law, is reappointment of the governor permitted?	De Jure	CH	No; or at most a single reappointment—1 Yes, more than once—0
3.1.4. By law, is it stated whether the governor may be removed from office?	De Jure	T	Yes—1 No—0
3.1.4.1. By law, is it stated what the grounds for dismissal are?	De Jure	T	Yes—1 No—0
3.1.5. By law, is it stated whether the governor may hold potentially conflicting offices outside the central bank? ^{iv}	De Jure	T	Yes—1 No—0
3.1.5.1. By law, may the governor hold potentially conflicting positions outside the central bank?	De Jure	CH	No—1 Yes—0
3.1.6. In practice, is it stated who the current governor is?	De Facto	T	Yes—1 No—0
3.1.6.1. In practice, is it stated how long the current governor's term of office is?	De Facto	T	Yes—1 No—1
3.1.6.1.1. In practice, how long is the current governor's term of office?	De Facto	CH	At least 5 years—1 Less than 5 years—0
3.1.6.1.2. In practice, is the governor's appointment linked to the political cycle?	De Facto	CH	No—1 Yes—0
3.1.7. In practice, does the current Governor hold (potentially conflicting) offices outside the central bank?	De Facto	CH	No—1 Yes—0
3.1.8. In practice, how long was the total time in office served by the current governor's predecessor?	De Jure	CH	At least 5 years—1 Less than 5 or more than 10 years—0
3.1.9. In practice, was the current governor's predecessor removed from office?	De Facto	CH	No—1 Yes—0
3.1.10. In practice, was the current governor's predecessor reappointed?	De Facto	CH	No; or at most a single reappointment—1 Yes, more than once—0
3.2. Integrity of Legally Designated Monetary Policymaking Body			
3.2.1. By law, is it stated what the composition of the monetary policymaking body is?	De Jure	T	Yes—1 No—0
3.2.1.1. By law, is there a requirement to have external members on the policymaking body? ^v	De Jure	CH	Yes—1 No—0
3.2.2. By law, is it stated how long each member's term of office is?	De Jure	T	Yes—1 No—0
3.2.2.1. By law, how long is each member's terms of office?	De Jure	CH	At least 4 years—1 Less than 4 years—0
3.2.3. By law, is it stated whether members may be reappointed?	De Jure	T	Yes—1 No—0
3.2.3.1. By law, is reappointment of members permitted?	De Jure	CH	No; or at most a single reappointment—1 Yes, more than once—0
3.2.4. By law, is it stated who appoints members?	De Jure	T	Yes—1 No—0
3.2.4.1. By law, are members appointed by a group rather than an individual?	De Jure	CH	Yes—1 No—0
3.2.5. By law, is it stated whether members' may be removed from office?	De Jure	T	Yes—1 No—0
3.2.5.1. By law, is it stated what the grounds for dismissal are?	De Jure	T	Yes—1 No—0
3.2.6. By law, is it stated whether there are legal penalties for members of the monetary policymaking body? ^{vi}	De Jure	T	Yes—1 No—0
3.2.6.1. By law, under what circumstances are members of the monetary policymaking body legally liable?	De Jure	CH	In case of serious misconduct, negligence, malfeasance, corruption, neglect of duty and other similar instances—1 Monetary policy performance—0

^{iv}Potentially conflicting positions include positions in any of the branches of government or in the financial sector.

^v“External” members have no executive responsibilities and are selected from outside the central bank.

^{vi}These penalties refer to legal recourse distinct from dismissal, such as imprisonment or fines.

Table A1: Criteria for Independence and Accountability (Continued)

Criterion	Type		Options and Scoring
3.2.7. By law, is it stated whether members may hold (potentially conflicting) offices outside the central bank?	De Jure	T	Yes—1 No—0
3.2.7.1. By law, may members hold (potentially conflicting) offices outside the central bank?	De Jure	CH	No—1 Yes—0
3.2.8. By law, is it stated whether there is a government official on the monetary policymaking body or that sits in on meetings?	De Jure	T	Yes—1 No—0
3.2.8.1. By law, is a government official permitted to participate in meetings?	De Jure	CH	No—1 Yes—0
3.3. Integrity of the De Facto Monetary Policymaking Body			
3.3.1. In practice, is it stated what the composition of the de facto monetary policymaking body is?	De Facto	T	Yes—1 No—0
3.3.1.1. In practice, are there any external members on the de facto monetary policymaking body?	De Facto	CH	Yes—1 No—0
3.3.2. In practice, is it stated who the current members of the de facto monetary policymaking body is?	De Facto	T	Yes—1 No—0
3.3.2.1. In practice, is it stated how long each current member's term of office is?	De Facto	T	Yes—1 No—0
3.3.2.1.1. In practice, how long is each current member's terms of office?	De Facto	CH	At least 4 years—1 Less than 4 years—0
3.3.2.1.2. In practice, are the terms of office of the current members linked to the political cycle?	De Facto	CH	No—1 Yes—0
3.3.2.1.3. In practice, have any of the current members been reappointed?	De Facto	CH	No; or at most a single reappointment—1 Yes, more than once—0
3.3.2.2. In practice, do any members (other than a government representative) hold potentially conflicting offices outside the central bank? ^{vii}	De Facto	CH	No—1 Yes—1
3.3.3. In practice, is it stated who appoints members?	De Facto	T	Yes—1 No—0
3.3.3.1. In practice, are members appointed by a group rather than an individual?	De Facto	CH	Yes—1 No—0
3.3.4. In practice, is it stated whether there is any government official on the monetary policymaking body or that sits in on meetings?	De Facto	T	Yes—1 No—0
3.3.4.1. In practice, is there any government official that participates in meetings?	De Facto	CH	No—1 Yes—0
4. Financial Arrangements			
4.1. Financing the Government			
4.1.1. By law, is it stated whether the central bank is permitted to buy government securities in the primary market?	De Jure	T	Yes—1 No—0
4.1.1.1. By law, is the central bank prohibited from buying government securities in the primary market?	De Jure	CH	Yes—1 No, but there are some limits—0.5 No—0
4.1.2. In practice, does the central bank buy government securities in the primary market?	De Facto	CH	No—1 Yes—0
4.1.3. By law, is it stated whether the central bank is permitted to extend loans directly to the government?	De Jure	T	Yes—1 No—0
4.1.3.1. By law, is the central bank prohibited from extending loans directly to the government?	De Jure	CH	Yes—1 No, but there are some limits on the quantity—0.5 No—0
4.1.3.1.1. By law, if direct lending to the government is not prohibited, is there a prescription for the interest rate to be charged on direct loans?	De Jure	CH	Yes—1 No—0
4.1.3.1.2. By law, if direct lending to the government is not prohibited, is lending beyond a fixed duration prohibited? ^{viii}	De Jure	CH	Yes—1 No—0
4.1.3.1.3. By law, if direct lending to the government is not prohibited, is lending to other governmental entities prohibited? ^{ix}	De Jure	CH	Yes—1 No—0
4.1.4. In practice, does the central bank extend loans direct to the government? ^x	De Facto	CH	No—1 Yes—0

^{viii}To obtain 1 it needs to be either prohibited by law or explicitly stated that this is not the case in practice.

^{ix}In other words, the date of repayment or the maximum duration of loans is specified.

^xOther governmental entities include public-private entities, quasi-governmental entities, state-owned enterprises, and provincial governments.

Table A1: Criteria for Independence and Accountability (Continued)

Criterion	Type		Options and Scoring
4.2. Central Bank Funding			
4.2.1. By law, is it stated whether profits are distributed?	De Jure	T	Yes—1 No—0
4.2.1.1. By law, are distributable profits defined?	De Jure	CH	Yes—1 No—0
4.2.1.2. By law, is there a reserve fund? ^{xi}	De Jure	CH	Yes—1 No—0
4.2.1.3. By law, is it stated whether the distribution of profits to the government is prohibited?	De Jure	T	Yes—1 No—0
4.2.1.3.1. By law, if profit distribution to the government is not prohibited, how is the distribution of profit to the government calculated?	De Jure	CH	A rule specifying a fixed percentage less than 75%—1 An increasing percentage, depending on the level of reserves.—0.5 Other ^{xii} —0
4.2.2. In practice, does the central bank distribute profits to the government? ^{xiii}	De Facto	CH	No—1 Yes—0
4.2.3. By law, is it stated who bears the central bank's losses?	De Jure	T	Yes—1 No—0
4.2.4. By law, is automatic recapitalization of the central bank ensured?	De Jure	CH	Yes—1 No—0
5. Reporting and Oversight			
5.1. By law, is it stated that an annual report is required to be published?	De Jure	T	Yes—1 No—0
5.1.1. By law, is the annual report required to contain a review of monetary policy?	De Jure	CH	Yes—1 No—0
5.2. In practice, is an annual report published?	De Facto	T	Yes—1 No—1
5.2.1. In practice, does the annual report contain a review of monetary policy?	De Facto	CH	Yes—1 No—0
5.3. By law, is it stated that the central bank is subject to auditing by an external auditing body?	De Jure	T	Yes—1 No—0
5.4. In practice, are audited financial statements published?	De Facto	T	Yes—1 No—0
5.5. By law, is it stated that monetary policy decisions are required to be published?	De Facto	CH	Yes—1 No—0
5.6. In practice, are monetary policy decisions published?	De Facto	T	Yes—1 No—0
5.7. By law, is it stated that the monetary policymaking body's voting records are required to be published?	De Jure	T	Yes—1 No—0
5.8. In practice, are the voting records of the monetary policymaking body published?	De Facto	T	Yes—1 No—0
5.9. By law, is it stated that the minutes of the monetary policymaking meetings are required to be published	De Jure	T	Yes—1 No—0
5.10. In practice, are the minutes of the de facto monetary policymaking body meetings published?	De Facto	T	Yes—1 No—0
5.11. By law, is it stated that a monetary policy report is required to be published?	De Jure	T	Yes—1 No—0
5.12. In practice, is a monetary policy report published?	De Facto	T	Yes—1 No—0
5.13. By law, are there additional reporting requirements if numerical targets/objectives are not met?	De Jure	T	Yes—1 No—0
5.14. In practice, are there additional reporting requirements if numerical targets/objectives are not met?	De Facto	T	Yes—1 No—0
5.15. By law, is the governor or members of the monetary policymaking body required to testify in front of the legislature regarding monetary policy?	De Jure	T	Yes—1 No—0
5.16. In practice, during the last 12 months, has the governor or members of the monetary policymaking body testified in front of the legislature regarding monetary policy?	De Facto	T	Yes—1 No—0
5.17. By law, could there be periodic performance reviews of monetary policymaking with inputs from an external, independent body(s)?	De Jure	T	Yes—1 No—0
5.18. In practice, during the current Governor or the predecessor's term, has there been any review of monetary policymaking with inputs from an external, independent body(s)?	De Facto	T	Yes—1 No—0

Table A2: Criteria for Policy and Operational Strategy

Criterion	Type	Options and Scoring	
POLICY AND OPERATIONAL STRATEGY			
1. Objectives			
1.1. Is it stated what the objectives are?	De Facto	T	Yes—1 No—0
1.1.1. Is price stability one of the objectives?	De Facto	CH	Yes—1 No—0
1.1.2. If there are multiple objectives, are the potential interactions between them explained?	De Facto	CH	Yes—1 No—0
2. Numerical Targets			
2.1. Is it stated what the numerical targets are?	De Facto	T	Yes—1 No—0
2.1.1. Does this include an inflation target?	De Facto	CH	Yes—1 No—0
2.1.1.1. Is it stated which indices/data series define these targets?	De Facto	T	Yes—1 No—0
2.1.1.2. Is it stated over which time horizon these targets should be met?	De Facto	T	Yes—1 No—0
2.1.1.2.1. Is the time horizon for the inflation target the medium-term?	De Facto	CH	Yes— 1 No—0
2.1.1.3. Is it stated under which conditions these targets may be revised?	De Facto	T	Yes—1 No—0
2.1.1.3.1. Under which conditions may these targets be revised?	De Facto	CH	As part of a comprehensive review of the entire monetary policy framework, at a fixed, low frequency (every 5 or more years)—1 More often and for other reasons—0
2.1.1.4. Have any of these targets been revised?	De Facto	CH	No; or yes, but as part of a comprehensive review of the entire monetary policy framework—1 Yes, but not as part of a comprehensive review of the entire monetary policy framework—0
2.1.1.5. Is it explained how the objectives map into these targets?	De Facto	CH	Yes—1 No—0
3. Tools			
3.1. Is it stated what that the tools are?	De Facto	T	Yes—1 No—0
3.1.1. Are the tools defined as indirect market-based tools?	De Facto	CH	Yes—1 No—0
3.1.2. Is it stated that the policy stance is signaled through (one of) the tools?	De Facto	T	Yes—1 No—0
3.1.2.1. Are the signaling tools defined as point targets?	De Facto	T	Yes—1 No—0
3.1.3. Are these tools consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
3.1.3.1. Is the relationship of the tools with the objectives (and numerical targets) explained?	De Facto	CH	Yes—1 No—0
3.1.3.2. If there are multiple tools, are the potential interactions between them explained?	De Facto	CH	Yes—1 No—0
4. Policy Formulation			
4.1. Is it stated what the different stages are in the decision-making process for formulating policy?	De Facto	T	Yes—1 No—0
4.1.1. Is it explained how the monetary policymakers take staff analyses and judgments into account?	De Facto	CH	Yes—1 No—0
4.1.2. Is it stated whether a quantitative framework is used as input into policy analysis and formulation?	De Facto	T	Yes—1 No—0
4.1.2.1. Is it stated which models or quantitative methods are used in policy formulation?	De Facto	T	Yes—1 No—0
4.1.3. Are the tools relevant to this decision-making process consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.2. Is it stated which objectives and numerical targets guide policy formulation?	De Facto	T	Yes—1 No—0

Table A2: Criteria for Policy and Operational Strategy (Continued)

Criterion	Type		Options and Scoring
4.2.1. Does policy formulation center around the outlook for the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
4.2.2. If there are multiple objectives and numerical targets guiding policy formulation, is it explained how these, including an inflation target, are balanced? ^{xiv}	De Facto	CH	Yes—1 No—0
4.2.3. Are the tools covered in this description of policy formulation consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.2.3.1. If there are multiple tools, is it explained how these are balanced to achieve the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
4.2.3.2. Is the future path of the policy stance taken into account when formulating policy?	De Facto	CH	Yes—1 No—0
4.2.3.3. Does policy formulation incorporate an evaluation of future risks and contingency plans?	De Facto	CH	Yes—1 No—0
5. Policy Implementation			
5.1. Is it stated what are the instruments for policy implementation?	De Facto	T	Yes—1 No—0
5.1.1. Are these instruments consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
5.1.1.1. Does the central bank map these instruments to individual aims?	De Facto	CH	Yes—1 No—0
5.1.2. Is there a mechanism in place for the smoothing of daily autonomous factor liquidity shocks? ^{xv}	De Facto	CH	Yes—1 No—0
5.1.3. Are there standing facilities for the day-to-day stabilization of short-term interest rates?	De Facto	CH	Yes—1 No—0
5.1.3.1. Are the standing facilities symmetric?	De Facto	CH	Yes—1 No—0
5.1.3.2. How wide is the corridor of the standing facilities? ^{xvi}	De Facto	CH	Narrow—1 Excessive or unspecified—0
5.1.3.3. Is access to these standing facilities unlimited for market participants against pre-defined collateral?	De Facto	CH	Yes—1 No—0
5.2. Is it stated how the tools and instruments function jointly?	De Facto	T	Yes—1 No—0
5.2.1. Is this statement of the joint functioning of the tools and instruments consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
5.2.1.1. Is it explained how the policy stance is to be achieved through the joint use of the instruments?	De Facto	CH	Yes—1 No—0
5.2.1.2. Are the instruments adjusted automatically to achieve the policy stance?	De Facto	CH	Yes—1 No—0

^{xiv}This may include a discussion of prioritization, objective-specific time-horizons, and how trade-offs are managed.

^{xv}For example, by conducting daily open market operations (with no reserve requirements) or less frequent open market operations in the presence of reserve requirements.

^{xvi}A corridor is considered excessive if spreads between lending and deposit rates are in excess of 100 basis points.

Table A3: Criteria for Communications

Criterion	Type	Options and Scoring	
COMMUNICATIONS			
1. Communication Cycle			
1.1. Is it stated what the main monetary policy communication vehicles are and what purpose they serve?	De Facto	T	Yes—1 No—0
1.1.1. Is the ordinary communication cycle regular (fixed frequency)? ^{xvii}	De Facto	CH	Yes—1 No—0
1.2. Is the schedule for the upcoming ordinary policy meetings published?	De Facto	T	Yes—1 No—0
1.2.1. Do actual and announced meeting dates coincide?	De Facto	CH	Yes—1 No—0
1.2.2. Does the ordinary communication cycle center around policy meetings?	De Facto	CH	Yes—1 No—0
1.3. Is it stated which changes to the monetary policy framework (objectives, numerical targets, and tools) were made?	De Facto	T	Yes; or no, but none were made—1 No, even though changes were made—0
1.3.1. Is the justification for the changes provided?	De Facto	CH	Yes, in a stand-alone communication—1 Yes, within pre-existing communications—0.5 No—0
1.3.2. If the changes are temporary, are the conditions that warrant the changes as well as the exit strategies communicated?	De Facto	T	Yes—1 No—0
2. Announcing and Explaining the Policy Stance			
2.1. Is there a statement of monetary policy decisions?	De Facto	T	Yes—1 No—0
2.1.1. Are policy decisions announced promptly following the conclusion of policy meetings?	De Facto	CH	Yes, at a pre-set time—1 Yes, but at varying times—0.5 No—0
2.1.2. How are policy decisions announced?	De Facto	CH	Via a press release and verbal press conference with a Q&A session—1 Via a press release and (or) verbal press conference without a Q&A session—0.5 Some other way—0
2.1.3. Is there a statement explaining policy decisions?	De Facto	T	Yes—1 No, or only when tools are changed—0
2.1.3.1. Are the objectives and numerical targets in the explanation consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
2.1.3.1.1. Is there a discussion of the outlook for the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
2.1.3.1.2. Is there a discussion of the risks to the outlook for the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
2.1.3.1.3. Are the tools in this explanation consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
2.1.3.1.3.1. Is an interpretation of the policy stance provided? ^{xviii}	De Facto	CH	Yes—1 No—0
2.1.3.1.3.2. Is there a discussion of how the objectives and numerical targets, including an inflation target, are to be achieved through the policy decisions?	De Facto	CS	Yes—1 No—0
2.1.3.1.3.3. Is reference made to the future trajectory of the policy stance? ^{xix}	De Facto	CH	Yes—1 No—0
2.1.3.1.3.3.1. Is there a discussion of how this trajectory is warranted by the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
3. Monetary Policy Report			
3.1. Is a monetary policy report published?	De Facto	T	Yes—1 There are multiple similar such reports—0.5 No—0

^{xvii} Ordinary communication excludes extraordinary publications or meetings.

^{xviii} Unified stance of all main tools, e.g., loose, neutral, tight.

^{xix} This criterion captures the likely future path for policy, not a policy commitment.

Table A3: Criteria for Communications (Continued)

Criterion	Type		Options and Scoring
3.1.1. When is the report published?	De Facto	CH	Within 1 month of each ordinary meeting—1 At a lower frequency—0.5 On an ad hoc basis or with 1 month delay—0
3.1.2. Does the governor or other members of the policymaking body present the report?	De Facto	CH	Yes—1 No—0
3.1.3. Is it stated what the current policy actions and expected outcomes are?	De Facto	CH	Yes—1 No—0
3.1.3.1. Are the objectives and numerical targets in the statement of expected outcomes consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
3.1.3.1.1. Is there a discussion of the outlook for the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
3.1.3.1.2. Is there a discussion of the risks to the outlook for the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
3.1.3.1.3. Are the tools in the statement of current policy actions consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
3.1.3.1.3.1. Is an interpretation of the policy stance provided? ^{xx}	De Facto	CH	Yes—1 No—0
3.1.3.1.3.2. Is there a discussion of how the objectives and numerical targets, including an inflation target, are to be achieved through the current settings of the tools?	De Facto	CH	Yes—1 No—0
3.1.3.1.3.3. Is reference made to the future trajectory of the policy stance? ^{xxi}	De Facto	CH	Yes—1 No—0
3.1.3.1.3.3.1. Is there a discussion of how this trajectory is warranted by the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
3.1.4. Is it stated what past policy actions and outcomes were?	De Facto	T	Yes—1 No—0
3.1.4.1. Are the objectives and numerical targets in the statement of past outcomes consistent with Policy and Operational Strategy?	De Facto	CS	Yes—1 No—0
3.1.4.1.1. Is there a discussion of past developments in driving the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
3.1.4.1.2. Is there a discussion of the extent to which the objectives and numerical targets, including an inflation target, have been achieved?	De Facto	CH	Yes, with explanations of deviations—1 Yes but without explanations of deviations—0
3.1.4.1.3. Are the tools in the statement of past policy actions consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
3.1.4.1.3.1. Is there a discussion of the extent to which the intended past policy stance has been achieved?	De Facto	CH	Yes, with explanations of deviations—1 Yes but without explanations of deviations—0.5 No—0
3.1.4.1.3.2. Is there a discussion of the contribution of past policy actions in meeting the objectives and numerical targets, including an inflation target?	De Facto	CH	Yes—1 No—0
4. Publication of Data			
4.1. Is data relevant for monetary policymaking published? ^{xxii}	De Facto	T	Yes—1 No—0
4.1.1. Does this include data on the objectives and numerical targets that is consistent with Policy and Operational Strategy, and on the tools that is consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0

^{xx}Unified stance of all main tools, e.g., loose, neutral, tight.

^{xxi}This may include a discussion of prioritization, objective-specific time-horizons, and how trade-offs are managed.

^{xxii}This includes publicly available data on the objectives, numerical targets, tools and instruments.

Table A3: Criteria for Communications (Continued)

Criterion	Type	Options and Scoring	
4.1.1.1. Does this include data on inflation and inflation expectations?	De Facto	CH	Yes—1 No—0
4.1.1.1.1. Is this data available in downloadable format at a quarterly frequency at least?	De Facto	CH	Yes—1 No—0
4.2. Are forecasts published?	De Facto	T	Yes, numerical forecasts—1 Yes, graphical forecasts—0.5 No—0
4.2.1. Does this include medium-term forecasts for inflation?	De Facto	CH	Yes—1 No—0
4.2.1.1. At what frequency are forecasts published?	De Facto	CH	At least quarterly—1 Less than quarterly—0
4.2.1.2. Is it stated what the assumption about the path for the tools associated with the forecast is?	De Facto	T	Yes—1 No—0
4.2.1.2.1. Are these tools consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.2.1.3. Does the central bank communicate forecast uncertainties?	De Facto	CH	Yes—1 No—0
4.3. Is it stated how the tools and instruments were used in the past? ^{xxiii}	De Facto	T	Yes, at least annually—1 No—0
4.3.1. Are these tools and instruments consistent with the tools used in practice?	De Facto	CS	Yes—1 No—0
4.3.2. Is the past use of the instruments explained with reference to the policy stance?	De Facto	CH	Yes—1 No—0
5. Stakeholder Inclusion			
5.1. Is information made available in all major official languages?	De Facto	T	Yes—1 No—0
5.2. Are there efforts to simplify monetary policy information into accessible language for a wider audience? ^{xxiv}	De Facto	CH	Yes—1 No—0
5.3. Are there efforts to disseminate monetary policy information to a wider audience?	De Facto	CH	Yes—1 No—0
5.4. Are research articles published?	De Facto	T	Yes—1 No—0

^{xxiii} Ex-post reporting, including quantities.

^{xxiv} This criterion concerns the main monetary policy communication vehicles, such as decision press-releases and/or the Monetary Policy Report.

B. IAPOC Scores for Selective Countries

Figure 17: IAPOC Scores for Argentina

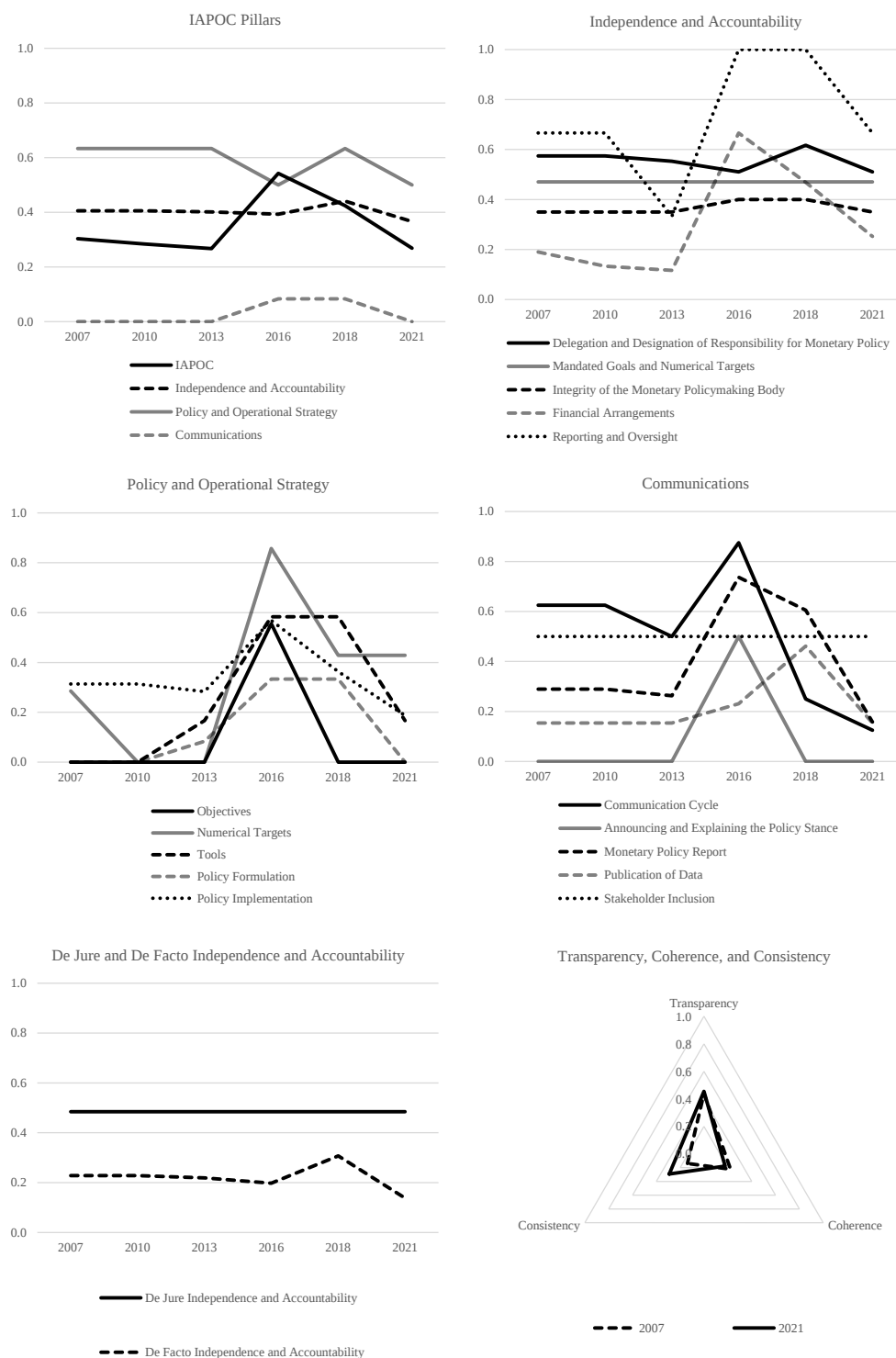


Figure 18: IAPOC Scores for Turkey

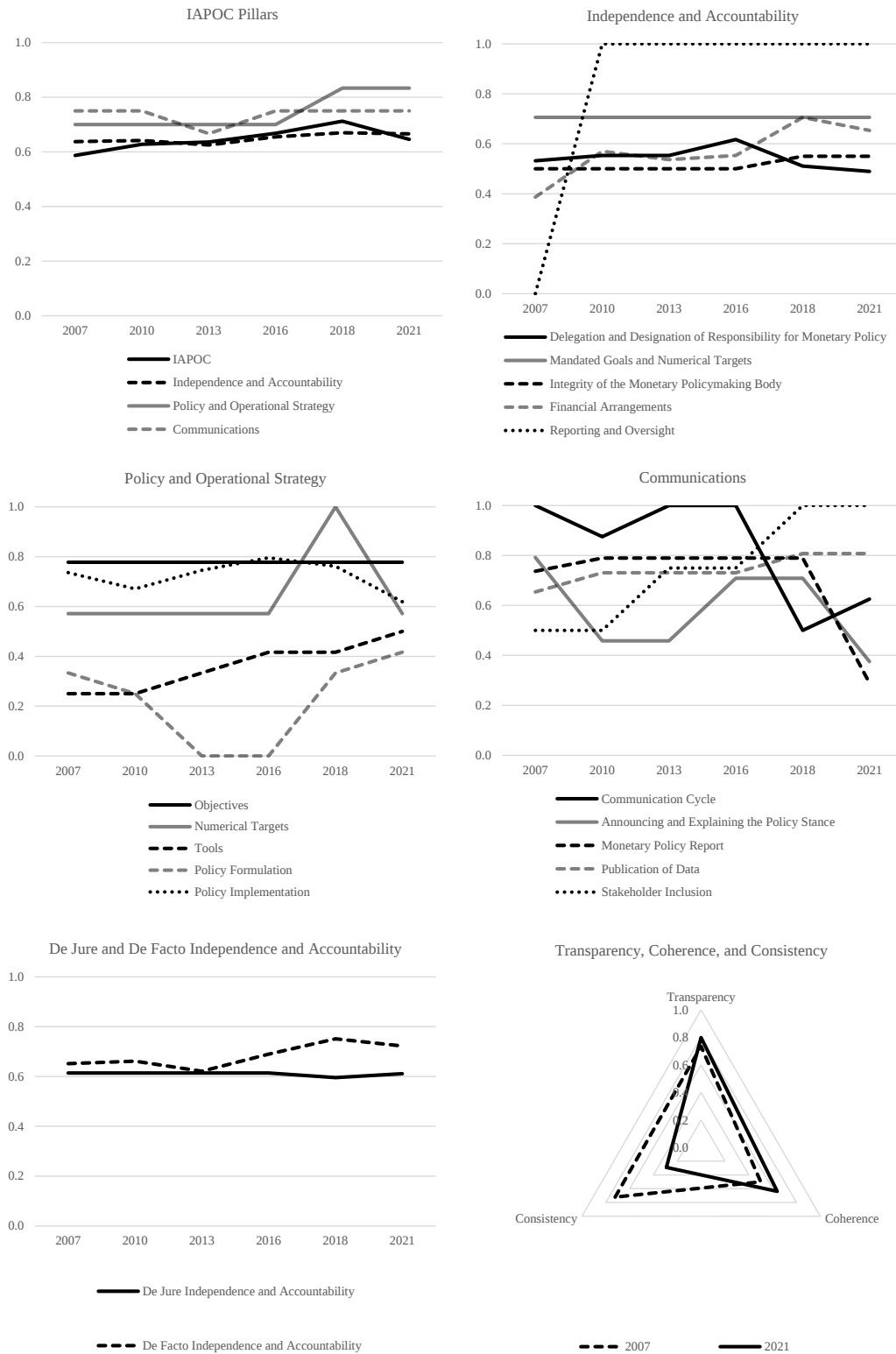


Figure 19: IAPOC Scores for Brazil

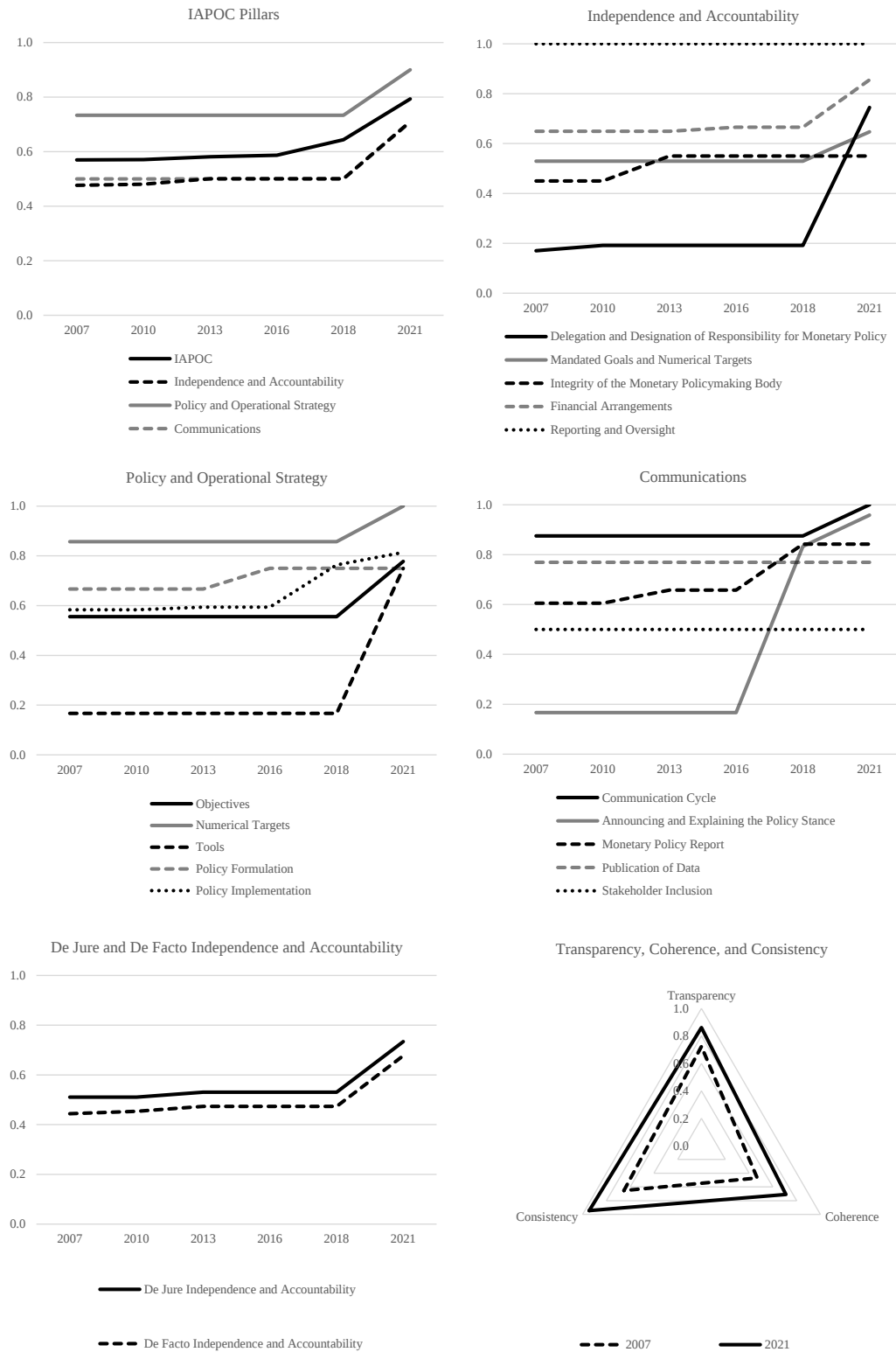


Figure 20: IAPOC Scores for Indonesia

