

# 4. Evolution of Monetary Policy Frameworks in the World

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## Abstract

Monetary policy frameworks around the world have significantly changed over the past two decades. Following Unsal et al. (2022), this chapter examines the evolution of monetary policymaking across advanced, emerging, and low-income developing countries from 2007 to 2021. We comprehensively analyse three critical pillars: Independence and Accountability, Policy and Operational Strategy, and Communications (IAPOC). Our findings highlight that, while monetary policy frameworks have broadly improved across the board, significant diversity persists both within and across country groups. Advanced economies often continue to lack sufficient de jure independence and accountability, despite strong de facto implementation. In terms of policy practices, these economies had already established robust Policy and Operational Strategy by the mid 2000s and have more recently enhanced Communications, particularly following the global financial crisis. Conversely, in some emerging markets and most low-income developing countries, Policy and Operational Strategy have been improving but significant gaps remain in Communications. They also continue to suffer from persistent inconsistencies within monetary policy frameworks, characterised by discrepancies between stated (ex ante) policies and actual (ex post) practices. We argue that limited de facto Independence and Accountability, combined with capacity constraints and weaknesses in policy formulation, contribute significantly to these weaknesses in monetary policy frameworks in these countries, limiting the effectiveness of monetary policy in shaping inflation expectations.

*Keywords:* Monetary Policy, Monetary Policy Regime, Inflation, Inflation Expectations, Exchange Rate Regime, Central Banks, Central Bank Independence, Central Bank Transparency, Emerging Markets

*JEL Classification Codes:* E31, E42, E52, E58, F33, O23.

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## 4.1. Introduction

In the last two decades, most countries, including emerging markets (EMs) and low-income developing countries (LIDCs), have achieved remarkable success in reducing inflation and inflation expectations to historically low levels. Between the early 2000s and the early 2020s, average inflation and inflation expectations decreased from about 3.3 percent to 1.9 percent in advanced economies (AEs), and from approximately 15 percent (10) to 4 percent (4.6) in EMs (and LIDCs). This achievement is largely attributable to enhanced monetary policy frameworks (MPFs), typically anchored around numerical inflation targets, reflecting global thinking and practice.<sup>1</sup>

The MPF plays a critical role in empowering monetary policymaking for two fundamental reasons. First, a well-established MPF fosters clarity by providing the frame of reference that guides sound and consistent policymaking and safeguards policy continuity. It serves as a useful vehicle for steering policymakers on various issues, from the legality of actions to the appropriate focus of policy discussions or the communication of decisions. Second, clarity about the way the central bank conducts monetary policy aids the public in forming policy expectations, reduces uncertainty, and ultimately makes monetary policy more effective. This is key as the effects of monetary policy on the economy depend not only on current policy actions but also on the public's expectations of how the policy will evolve. A useful approach to managing expectations is for policymakers to be clear about the objectives as well as the plans to progress towards and achieve those objectives.

In this chapter, we document the evolution of MPFs in 50 countries (13 AEs, 26 EMs, and 11 LIDCs) over the period of 2007-2021 through a comprehensive metric provided by Unsal et al. (2022). In particular, 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 **S**trategy, 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. Following Unsal et al. (2022) in using the narrative approach, as in Romer and Romer (2023), we also update Unsal et al. (2022) for 2021 by employing 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.<sup>2</sup>

The IAPOC index provides a comprehensive measure of MPFs across countries and time periods by characterising all three pillars. Complementing the extensive literature on monetary policy or

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<sup>1</sup> Several papers provide evidence on the impact of changing specific elements of monetary policy frameworks—such as the operational target, or more broadly the monetary policy or exchange rate regime, or institutional features such as central bank independence—on inflation performance. For example, Cobham et al. (2022) find that inflation targeting is mostly associated with lower inflation, more clearly for emerging than for advanced economies. Earlier studies also highlight the role of central bank independence (Alesina and Summers, 1993; Cukierman, 1992), transparency (Dincer and Eichengreen, 2016), and exchange rate flexibility (Ghosh et al., 1997; Rogoff et al., 2004) in reducing inflation.

<sup>2</sup> The 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.

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), the index helps systematically document how key design, implementation, and communications elements of MPFs have been evolving around the world and identifies remaining gaps across the pillars (and sub-pillars). This is valuable especially for EMs and LIDCs where more eclectic and fast-changing approaches are far more common than in their AE counterparts. Notably, across EMs and LIDCs, the index captures the significant variation in monetary policymaking, which is mostly driven by the novel Policy and Operational Strategy and Communications pillars.<sup>3</sup> As expected, the IAPOC index correlates well with inflation and inflation expectations across countries and over time.

MPFs in all pillars are generally more developed in AEs, but the gaps across country groups have narrowed over time. EMs and LIDCs substantially improved their Policy and Operational Strategy between 2007 and 2021, sometimes only after they adopted policy regimes that focus on inflation stability. Still, they face various remaining challenges with the use of numerical targets, which is sometimes not integrated into the rest of the MPFs, in line with the goals or the operational framework. During this period, EMs and LIDCs managed to develop key elements of Communications such as adopting policy announcements and publishing monetary policy reports, but they remain backward-looking and lack sufficient forward guidance. Establishing a regular and predictable communication cycle around monetary policy decisions remains particularly difficult for some LIDCs. In the meantime, there have also been some further refinements in the MPFs of AEs, particularly in Communications after the global financial crisis when they adopted additional monetary policy tools.

The IAPOC index further provides a joint account of Independence and Accountability and quantifies both *de facto* and *de jure* scores for this pillar.<sup>4</sup> Interestingly, *de jure* arrangements are assessed as being stronger than their *de facto* implementation in EMs and especially in LIDCs, while the reverse holds for AEs. Nevertheless, enhanced practices over time have closed the gap between *de facto* Independence and Accountability and the *de jure* counterpart in EMs and brought the two closer in LIDCs.<sup>5</sup>

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<sup>3</sup> In this chapter, we provide a measure of monetary policymaking comparable across countries operating various types of regimes as well as those that do not fit into any regimes. Indeed, regime classifications may not fully reflect on monetary policymaking in EMs and LIDCs in the same way as in AEs. This is because, even across countries that have the same type of monetary policy or exchange rate regime, such as the inflation-targeting regime, the variation in MPFs, as measured by the IAPOC, is substantial across multiple critical dimensions and particularly so for EMs and LIDCs. Cobham (2021) also goes beyond exchange rate and monetary policy classifications by providing a more detailed documentation of monetary policymaking across countries.

<sup>4</sup> In contrast to much of the related literature, we focus on the central bank's monetary policy function as opposed to *all* central bank functions. As mentioned in Unsal et al. (2022), central banks in the aftermath of the global financial crisis have been tasked with additional policy functions, such as macroprudential policy or banking supervision, for which the same degree of operational independence or transparency as with monetary policy may not be desirable. Balls et al. (2018), for example, provide an analysis of overall central bank independence.

<sup>5</sup> Unsal et al. (2022) documents the dynamic and comprehensive nature of *de facto* Independence and Accountability within IAPOC, and how it adds to the existing *de jure* central bank independence indices such as Cukierman et al. (1992). Indeed, most of the existing work on central bank independence relies solely on *de jure* aspects. Cukierman (1992) and Cukierman et al. (1992) suggested the turnover rate of central bank governors as a *de facto* measure of central bank independence. In the IAPOC, the turnover rate of governors is merely one aspect of numerous *de facto* considerations. Some other studies look at accountability separately (Laurens et al., 2016).

Unsal et al. (2022) also provide standalone scores for Transparency, Coherence, and Consistency—key principles underpinning MPFs. While EMs and LIDCs have made notable progress in Transparency and Coherence over the past decade, they continue to lag significantly behind AEs regarding Consistency. This gap reflects ongoing learning-by-doing among central banks in some EMs and many LIDCs, where the primary challenge remains transitioning to a robust and well-structured MPF. Several EMs and many LIDCs have employed multiple policy tools simultaneously, often pursuing diverse and occasionally conflicting objectives, particularly concerning the exchange rate. In contrast to AEs, the actual policy tools utilised by some EMs and LIDCs also frequently differ from those outlined *ex ante* in their Policy and Operational Strategy. Even when aligned, explanations of how these tools interact and balance one another remain insufficient. These discrepancies between stated policy intentions ("what they say") and actual implementation ("what they say they do") are captured clearly by the Consistency indices within the IAPOC. We conjecture that limited *de facto* Independence and Accountability, combined with capacity constraints and weaknesses in policy formulation (within the Policy and Operational Strategy), probably underpin these prevalent inconsistencies.

The rest of this chapter is organised as follows. Section 4.2 characterizes MPFs. Section 4.3 describes the methodology used to formulate the criteria underlying the IAPOC metric and the construction of the IAPOC index. Section 4.4 showcases the index and how it changed over time across pillars and identifies remaining gaps across AEs, EMs, and LIDCs. Section 4.5 concludes this chapter.

## 4.2. Monetary Policy Framework: Independence and Accountability, Policy and Operational Strategy, and Communications

### *Definition*

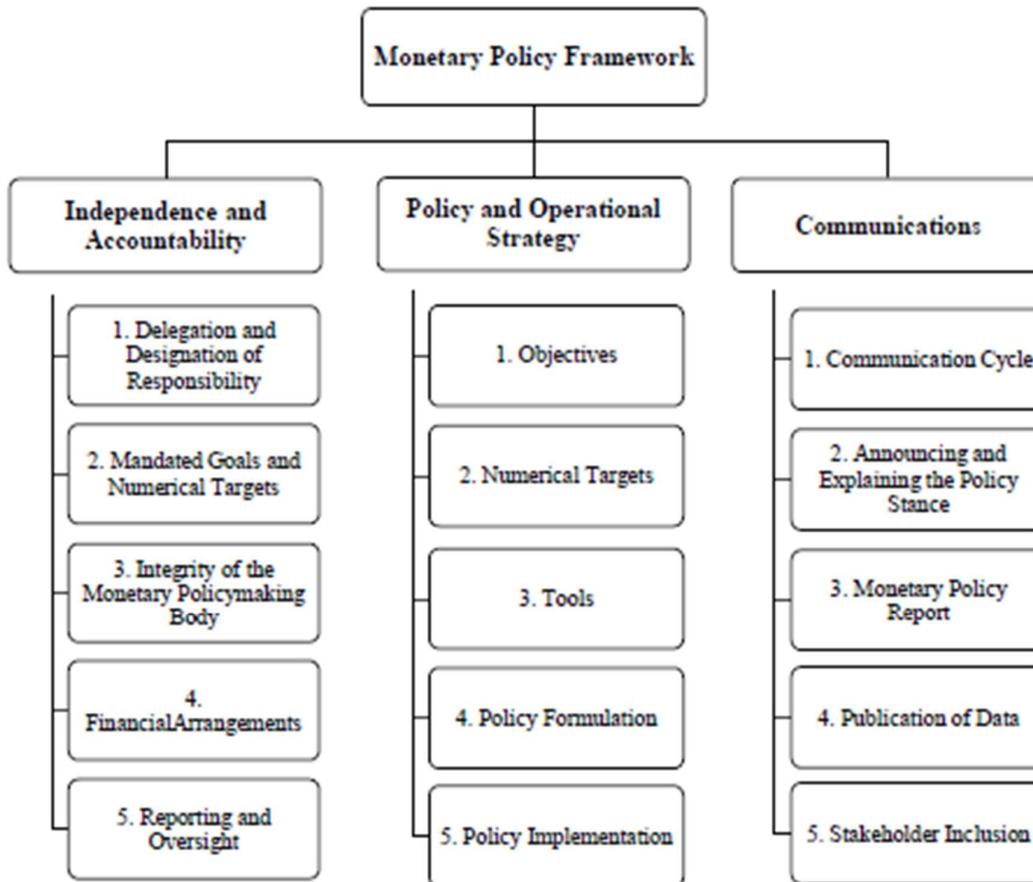
Following Unsal et al. (2002), we view the MPF as encompassing three pillars—Independence and Accountability, Policy and Operational Strategy, and Communications. The Independence and Accountability pillar covers the central bank’s monetary policy mandate and associated goals, together with (*de jure* 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.

In this chapter, 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 operationalisation 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).

### *Scope*

Unsal et al. (2022) delineate the MPF along its conceptual constituents to allow for the sharpest categorisation of information (Figure 4.1). This further facilitates a clear separation of potential sources of information.

**Figure 4.1. 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. For completeness, we briefly describe the scope of each pillar and its associated sub-pillars. Further details and the exact criteria are reported in Unsal et al. (2022).

### *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. This independence is envisioned within the context of accountability, meaning that safeguards are in place to provide appropriate control and good governance. Unsal et al. (2022) further account for both the legal arrangements (de jure) and the arrangements that exist in reality (de facto). This is important, as tradition, norms, and precedent may complement the legal basis in cases of older laws or in common law systems; or, the rule of law may not be followed or reflected in practice.

The Independence and Accountability pillar in the IAPOC metric has 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 (such as the Board or a designated Monetary Policy Committee).<sup>6</sup>
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.
4. *Financial Arrangements* covering governance aspects of the central bank's financial setup, such as lending to the government, profit distribution, and recapitalisation arrangements.<sup>7</sup>
5. *Reporting and Oversight* covering the presence of accountability mechanisms, such as testimony to the legislature; and broad oversight, including auditing by an independent external body and periodic external reviews.

### *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 (such as policy interest rate or monetary aggregates, usually signalling the policy stance) based on the objectives and associated numerical targets—and implementation—adjusting the instruments (such as open market operations or foreign exchange sales) in line with the policy stance.

The Policy and Operational Strategy pillar within the IAPOC metric has 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).

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<sup>6</sup> As the literature does not identify superiority of a specific voting procedure (e.g., by consensus, majority, and unanimity) within the decision-making body (Vandenbussche, 2006), the IAPOC metric looks only for transparency; that is, whether the decision-making procedures of the decision-making body(ies) are stated.

<sup>7</sup> Even though our focus is on the central bank's monetary policy function, some considerations in *Financial Arrangements* and *Reporting and Oversight* do pertain to the entire central bank.

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.<sup>8</sup>
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 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.

#### *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 (Bernanke, 2004; Blinder, 1999, 2018; Blinder et al., 2008; Mishkin, 2017; Woodford, 2012).

The Communications pillar within the IAPOC metric has 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 (that is, the return to the standard framework).
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.
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.

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<sup>8</sup> Having an inflation target does not necessarily imply adopting an inflation-targeting regime.

### 4.3. The IAPOC Metric for Assessing Monetary Policy Frameworks

Unsal et al. (2022) designs the IAPOC metric by formulating 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 Unsal et al. (2022). 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. To ensure this broad applicability, Unsal et al. (2022) adopt a principle-based approach, focusing on Transparency, Coherence, and Consistency.

#### *Three Principles —Transparency, Coherence, and Consistency*

Unsal et al. (2022) 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).<sup>9</sup>

*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.

In particular, Consistency with the IAPOC metric is intended to capture whether central banks “do what they say they do” across the MPF by examining objectives and numerical targets (anchored in Policy and Operational Strategy) and the tools used (anchored in Communications). For example, in the case of numerical targets, criteria related to the availability of information (e.g. whether the body responsible for setting the target is identified) pertain to Transparency; those reflecting desirable policy practices (e.g. the medium-term nature of the target) pertain to Coherence; and those ensuring that targets cited in Communications align with those in Policy and Operational Strategy pertain to Consistency.

Together, these three principles underscore that effective monetary policymaking requires a clear, credible, and unified framework in which policy design, implementation, and communications are aligned.<sup>10</sup>

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<sup>9</sup> There is extensive literature on the importance of central bank transparency (Dincer and Eichengreen, 2008; Dincer and Eichengreen, 2014; Al-Mashat et al., 2018; Dincer et al., 2019). Transparency is often (mis)used to refer to coherence, consistency, or predictability of monetary policy or, sometimes even regarded synonymously with “good policy”.

<sup>10</sup> The implementation of the Consistency principle—and of the IAPOC metric more broadly—is intended to capture features of policy design and implementation that enable and guide the conduct of monetary policy, rather than

This principle-based approach makes the IAPOC metric applicable across a wide variety of monetary policy and exchange rate regimes, including those that do not fit into standard regime classifications. As mentioned earlier, many EMs and LIDCs adopt approaches that are more eclectic than standard interest rate setting and floating exchange rates or pegged regimes. Relatedly, the IAPOC metric does not view the inflation-targeting regime as a panacea and can flexibly accommodate more frontier approaches, such as temporary price-level targeting.

### *Constructing 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. For each country, the criteria are assessed by manually extracting the relevant information from the central bank's laws and website.

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. Building on Unsal et al. (2022), we update the IAPOC index for 2021 in this chapter.

The information is collected, and the index is constructed, as an annual, end-of-period measure of MPFs.<sup>11</sup>

## 4.4. The IAPOC Index

Based on Unsal et al. (2022), we document the IAPOC index for 50 countries—13 AEs, 26 EMs, and 11 LIDCs for 2007, 2010, 2013, 2016, 2018, and 2021 (Table 4.1).<sup>12</sup>

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specific endogenous policy actions at any given point in time. It therefore does not evaluate monetary policy performance, whether in terms of achieving numerical targets or in any other sense.

<sup>11</sup> There are two cases where assessments cover throughout the year as opposed to the end-of-period: monetary policy communication vehicles and communication of the changes in the MPFs.

<sup>12</sup> Our sample of LIDCs is less representative than that of advanced or emerging economies, largely because data availability limits coverage to central banks that are somewhat further along in improving their MPFs. 2007 is the earliest time that this index can be constructed as information is generally not available in earlier years. For Georgia, Indonesia, Kazakhstan, Serbia, Tanzania, and Thailand, 2007 is not available; for Nigeria and Mauritius, 2007 and 2010 are not available; for Malawi and Kyrgyz Republic only 2016, 2018, and 2021 are available. The missing observations are due to the availability of archived central bank websites.

Table 4.1. Country Sample

Advanced Economies (AEs)	Emerging Market Economies (EMs)	Low-Income Developing Countries (LIDCs)	
Australia	Argentina	Mauritius	Ghana
Canada	Armenia	Mexico	Kenya
Czech Republic	Brazil	Pakistan	Kyrgyz Republic
Euro Area	Chile	Peru	Malawi
Iceland	China	Philippines	Moldova
Israel	Colombia	Poland	Mozambique
Japan	Georgia	Russia	Nigeria
Korea	Hungary	Serbia	Rwanda
New Zealand	India	South Africa	Tanzania
Norway	Indonesia	Thailand	Uganda
Sweden	Jamaica	Turkey	Zambia
United Kingdom	Kazakhstan	Ukraine	
United States	Malaysia	Uruguay	

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

By thoroughly characterising all three pillars of the MPF, the resulting scope and granularity of the IAPOC index enable the detection of novel properties of and patterns across MPFs. In particular, we can identify the drivers and changing properties of MPFs over time and provide comparisons across and within country groups.<sup>13</sup>

All LIDCs lie a considerable way from zero, but on average they have a lower IAPOC index compared to EMs and AEs (Table 4.2, a). However, within the group of EMs and LIDCs 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 4.2, b-d). The heterogeneity is again particularly large among EMs and LIDCs, reflecting their more dynamic nature of MPFs. In contrast, 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.

<sup>13</sup> IAPOC data for all countries, with 2007 or the first year of assessment normalized to 100, is available on the IMF website. The levels for individual countries will be made available as part of the 2024 update, which will allow for cross-country comparisons.

**Table 4.2. Summary Statistics of the IAPOC Index and Pillars**

Variable	Mean	Range	Standard deviation		
			Overall	Between	Within
<b>(a) IAPOC Index</b>	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
LIDCs	0.49	[0.22,0.69]	0.10	0.06	0.08
<b>(b) Independence and Accountability</b>	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
LIDCs	0.48	[0.30,0.61]	0.08	0.07	0.03
<b>(c) Policy and Operational Strategy</b>	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
LIDCs	0.52	[0.15,0.84]	0.16	0.10	0.13
<b>(d) Communications</b>	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
LIDCs	0.46	[0.08,0.73]	0.14	0.08	0.11

Note: Data is annual with a total of 284 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 4.1. Source: Unsal et al. (2022), Authors’ calculations.

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 (Figure 4.2), and correlations are particularly strong for novel Policy and Operational Strategy and Communications pillars (Table 4.3).<sup>14</sup> We therefore relate the declining inflation and inflation expectations around the world in large part to improved MPFs across all country groups.

**Table 4.3. Correlation of the IAPOC Index versus Inflation and Inflation Expectation**

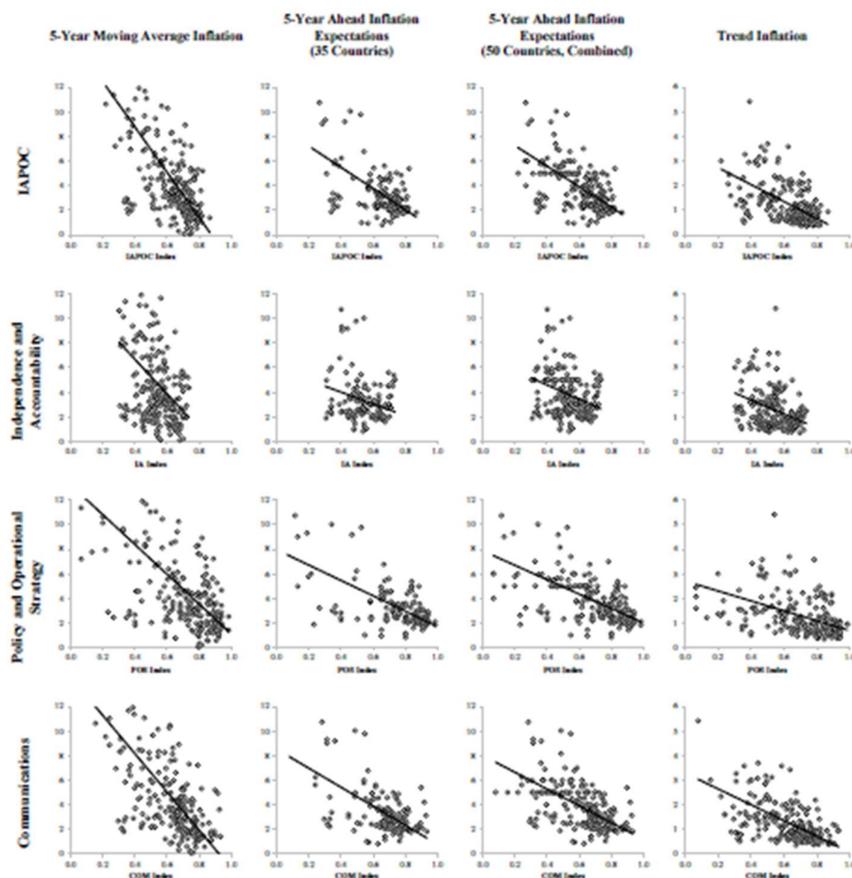
	Correlations in Levels			
	5-Year	5-Year Ahead	5-Year Ahead	Trend
	Moving Average Inflation	Inflation Expectations (35 Countries)	Inflation Expectations (50 Countries, Combined)	Inflation
IAPOC	-0.47***	-0.50***	-0.53***	-0.38***
Independence and Accountability	-0.25***	-0.17**	-0.28***	-0.23***
Policy and Operational Strategy	-0.46***	-0.53***	-0.53***	-0.33***
Communications	-0.48***	-0.51***	-0.51***	-0.42***

Note: \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1. We use Consensus Survey for 5-year ahead inflation expectations which is available for 35 countries in the sample. We complement these series with the IMF’s World Economic Outlook (WEO) 5-year ahead inflation projections for the remaining 15 countries. The trend inflation is calculated following Stock and Watson (2007) using quarterly inflation series starting from 2000.

<sup>14</sup> The 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 as suggested in Mertens (2016), and (ii) the time varying relation between one-year ahead inflation expectations and the 5-year ahead inflation expectations.

Source: Unsal et al. (2022), Consensus Survey, WEO, Authors' calculations.

**Figure 4.2. The IAPOC Index versus Inflation and Inflation Expectations**



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 35 countries in the sample. We complement these series with the IMF's World Economic Outlook (WEO) 5-year ahead inflation projections for the remaining 15 countries. The trend inflation is calculated following Stock and Watson (2007) using quarterly inflation series starting from 2000.

Source: Unsal et al. (2022), Consensus Survey, WEO, Authors' calculations.

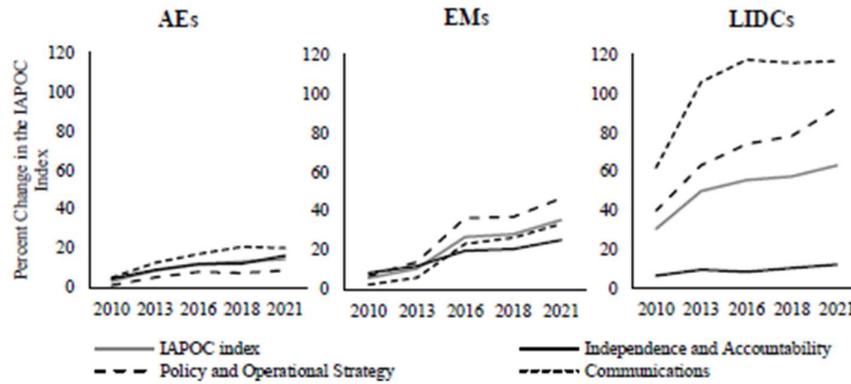
### ***Evolving Monetary Policy Frameworks***

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, particularly in EMs and LIDCs. The IAPOC index shows that, from 2007 to 2021, MPFs were strongly evolving and generally improving in EMs and LIDCs in terms of the Policy and Operational Strategy and Communications pillars (Figure 4.3).<sup>15</sup> MPFs in AEs also improved during this period, particularly Communications, but by a smaller magnitude, reflecting their high starting point.

<sup>15</sup> Note that, in a handful of individual country cases, the IAPOC index detects deteriorations.

While the gaps across countries have narrowed over time, EMs and LIDCs still lag behind the AEs across all three IAPOC pillars (Figure 4.4a-b).

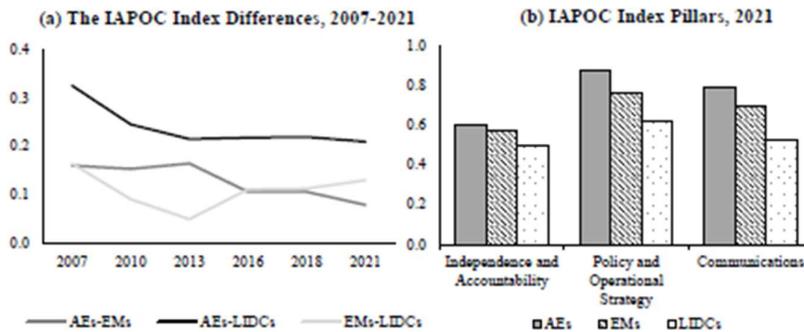
**Figure 4.3. The Evolution of MPFs relative to 2007**



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 4.1.

Source: Unsal et al. (2022), Authors' calculations.

**Figure 4.4. The IAPOC Index Differences for EMs and LIDCs with respect to AEs and IAPOC Index Pillars**



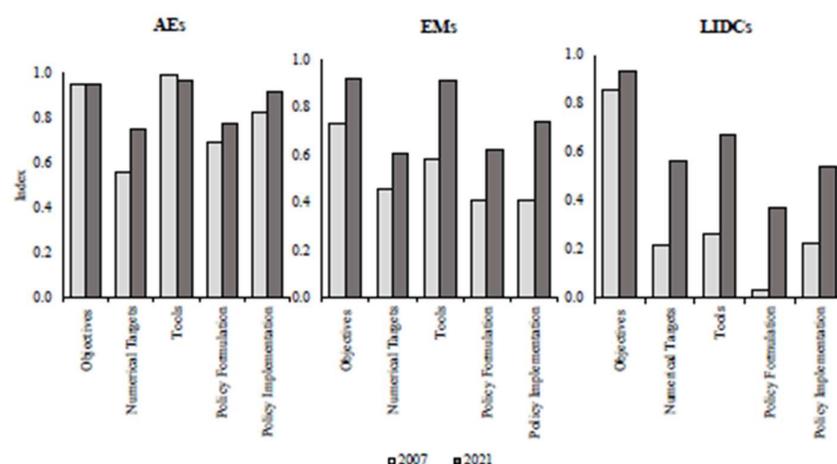
Note: The scores for country groups are unweighted averages. The country groups follow Table 4.1.

Source: Unsal et al. (2022), Authors' calculations.

AEs have further refined Policy and Operational Strategy since 2007 (Figure 4.5). For example, they started to incorporate future risks and contingency plans in deciding the stance of policy (in *Policy Formulation*), and improved access to standing facilities and adopted a reasonable corridor width (in *Policy Implementation*). Interestingly, and somewhat similar to EMs and LIDCs, several AEs adopted additional tools during and after the global financial crisis (e.g., quantitative easing) in their MPFs. By 2021, however, they clearly explain these tools, how they relate to objectives and numerical targets, what they signal about the stance of policy, and how they interact with existing tools (in *Tools*).

EMs and LIDCs still face common challenges in improving Policy and Operational Strategy. For example, the mapping of their policy objectives into the numerical targets is often not well established. They also still tend to revise frequently the numerical target in the absence of a comprehensive review (in *Numerical Targets*). Most notably, EMs and particularly LIDCs also stand to benefit from enhancing consistency between the tools used in practice versus those declared ex ante and, in some cases, explaining the potential interaction and tradeoffs among multiple tools (in *Tools and Policy Formulation*), as well as joint functioning of these tools and the associated instruments (in *Policy Implementation*).<sup>16</sup>

**Figure 4.5. Policy and Operational Strategy between 2007 and 2021**



Note: The scores for country groups are unweighted averages. The country groups follow Table 4.1.

Source: Unsal et al. (2022), Authors' calculations.

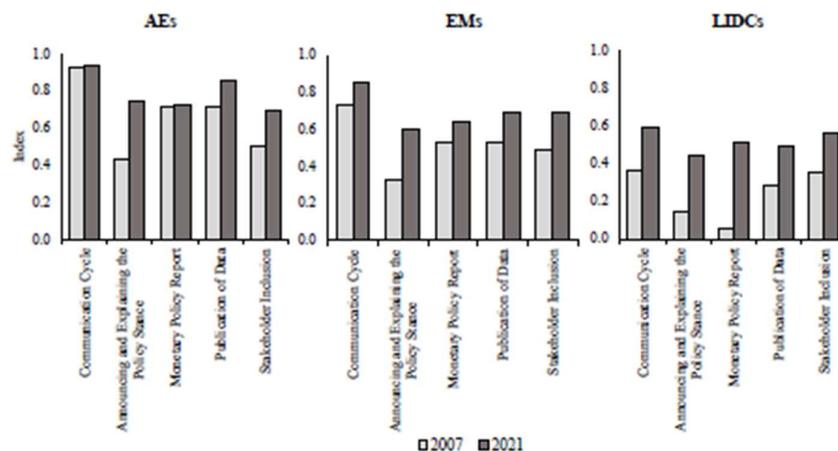
In Communications, all countries across the board have made forceful progress since 2007 (Figure 4.6). This is especially the case among LIDCs which in 2007 often lacked some of the most fundamental elements of communications such as policy announcements or a monetary policy report. Most EMs and LIDCs 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 both EMs and LIDCs. Decision announcements and the monetary policy reports still do not generally provide a forward-looking view. It has been particularly challenging for some LIDCs 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

<sup>16</sup> See also Section 4.3 (and Figure 4.9) which provides more details on the contribution of consistency-related criteria to lower IAPOC scores in some EMs and LIDCs.

policymaking (i.e. inflation and inflation expectations) as well as the forecast (in *Publication of Data*). EMs and LIDCs, as well as AEs, could benefit from making their communication more inclusive with simpler language and greater communication with the public (in *Stakeholders Inclusion*).

**Figure 4.6. Communications between 2007 and 2021**



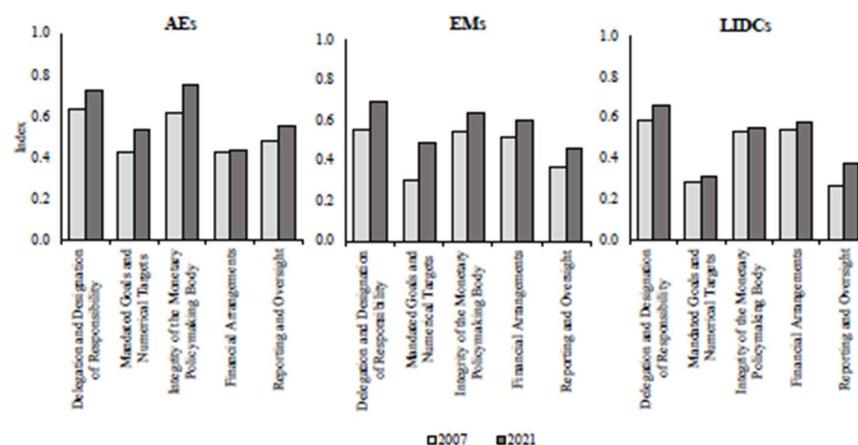
Note: The scores for country groups are unweighted averages. The country groups follow Table 4.1.

Source: Unsal et al. (2022), Authors' calculations.

### ***De Facto Strengthening of 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, many countries, especially AEs and EMs, adopted various key changes since 2007 (Figure 4.7). For example, they clarified the roles, powers, and 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). The improvements in LIDCs were relatively limited, and they still generally lag behind in clarifying goals and numerical targets in (Mandated Goals and Numerical Targets) and the Integrity of the Monetary Policymaking Body, two of the key sub-pillars which could be limiting the efficiency of the policymaking process as well as exposing policymaking to political or external pressure.

Figure 4.7. Independence and Accountability between 2007 and 2021



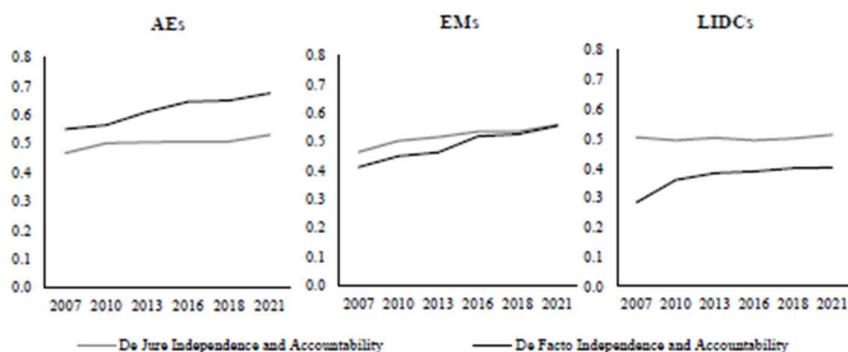
Note: The scores for country groups are unweighted averages. The country groups follow Table 4.1.

Source: Unsal et al. (2022), Authors' calculations.

Across country groups, the evolution of Independence and Accountability 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 4.8). In various cases, however, limited (or lack of) legal backing did not stop countries from adopting more advanced policy practices. For example, one-third of 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, de facto Independence and Accountability has caught up and moved closer to its de jure counterpart in EMs and LDCs but moved further away from it in AEs. Still, LDCs can make further progress in terms of de facto decision-making procedures as well as the Integrity of the Monetary Policymaking Body.

Incorporating de facto elements is therefore key to having a clear and up-to-date picture of Independence and Accountability. Indeed, with both de jure and de facto assessments, in addition to consideration of accountability jointly with independence and the focus on monetary policy (rather than the central bank more broadly), the IAPOC complements the existing central bank independence indices.<sup>17</sup>

<sup>17</sup> The association between the IAPOC Independence and Accountability index and the commonly used central bank de jure independence index of Cukierman et al. (1992), as constructed in Garriga (2016), is positive and significant, as expected. The correlations in levels is 0.43 (and in first differences is 0.66) at  $p \leq 0.01$  significance. Still, the correlations across country groups remain limited to around 0.5, in part reflecting the granularity of the approach in Unsal et al. (2022). Also, when compared with only the IAPOC de facto Independence and Accountability index, the correlations in levels (as well in first differences) go down to 0.21 (and 0.11) across the board and often become insignificant.

**Figure 4.8. 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 4.1.

Source: Unsal et al. (2022), Authors' calculations.

### ***Gains in Transparency and Coherence, Ongoing Struggles with Consistency***

By incorporating all three principles—Transparency, Coherence, and Consistency—the IAPOC index provides novel insights into the evolution of MPFs over time and the differences across country groups. Improvements in EMs and LIDCs over the past decade have reduced the gap with AEs across all three dimensions (Figure 4.9). In particular, the distributions of Transparency and Coherence indices within the IAPOC in EMs and LIDCs, as well as AEs, have become more concentrated and shifted notably to the right since 2007, reflecting broad-based progress. For example, the median Transparency index increased from 0.5 to 0.8 in EMs and from 0.3 to 0.5 in LIDCs. The median Coherence index also improved, but remains low around 0.3, in LIDCs.

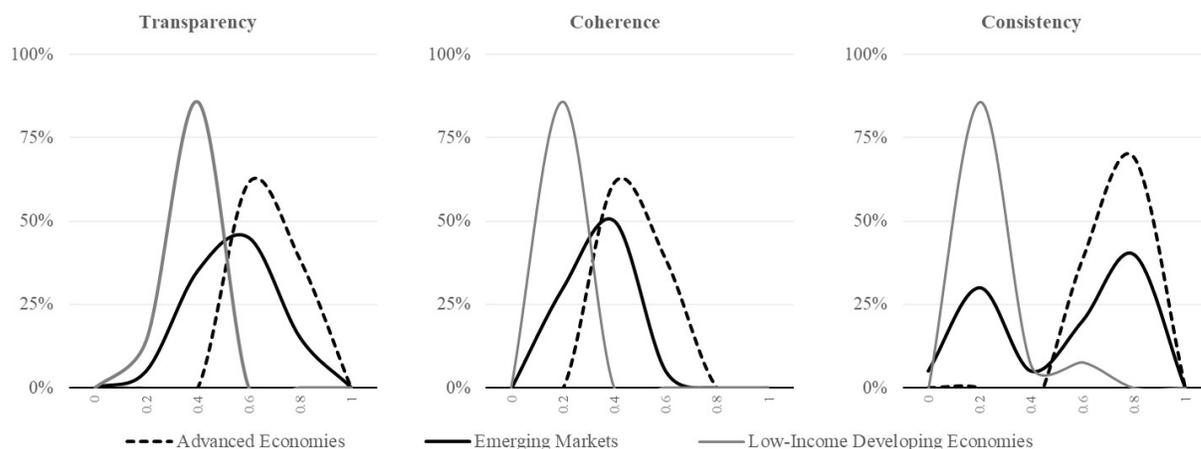
One notable feature is that Consistency within MPFs continues to lag significantly in some EMs and most LIDCs. In many of these cases, a contributing factor appears to be a departure from standard monetary policy orthodoxy toward more eclectic approaches. Around half of the countries in our sample (9 AEs, 8 EMs, and 10 LIDCs) had adopted multiple objectives—such as unemployment or exchange rate stability alongside price stability—and employed a range of policy tools beyond the policy interest rate, including asset purchases, foreign exchange interventions, and monetary aggregate targets, as of 2021. While such approaches do not necessarily undermine the integrity of an MPF, maintaining Consistency across multiple objectives and instruments remains a key challenge for many EMs and LIDCs, as opposed to AEs.

In many cases, it remains unclear how different monetary policy objectives and tools are interrelated and jointly balanced within the MPF, or how trade-offs are managed when they arise. Some EMs and LIDCs also tend to deviate from their stated objectives—including numerical targets—and introduce additional objectives or tools without a coherent, overarching framework. Instead, they often rely on a meeting-by-meeting approach. For example, monetary policy decision announcements in some cases have emphasised current account balances or growth, without referencing the inflation objective or numerical target—even when price stability is the sole stated objective in their Policy and Operational Strategy. Similarly, the tools employed in practice are at times inconsistent with the ex ante policy formulation, or their use is not clearly

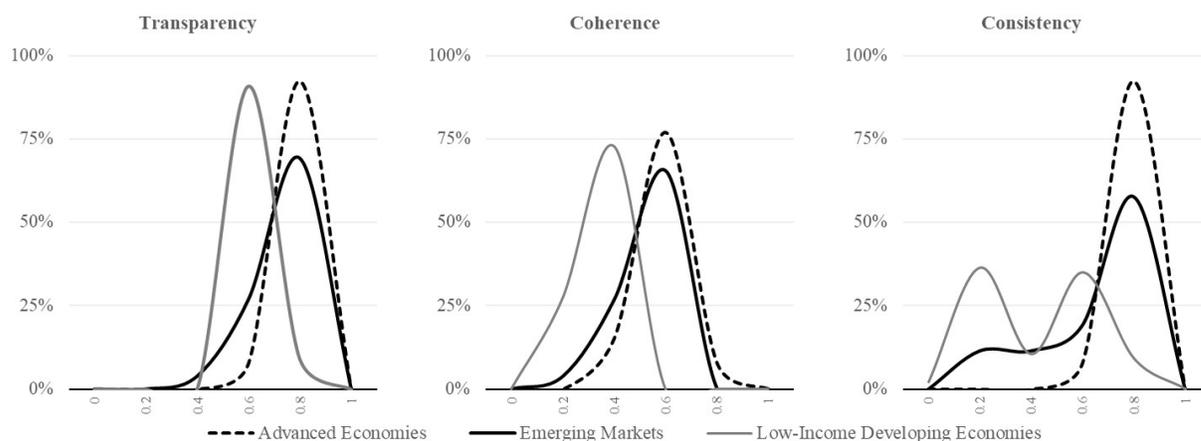
justified. A common example is foreign exchange market intervention: while several EMs and most LIDCs engage in such operations—often with valid reasons—they frequently fail to explain ex ante why this tool is being adopted and how it fits within the overall monetary policy strategy.

**Figure 4.9. Transparency, Coherence, and Consistency Indices within IAPOC, 2007 and 2021, AEs, EMs, and LIDCs**

Panel A. Transparency, Coherence, and Consistency within IAPOC, 2007



Panel B. Transparency, Coherence, and Consistency within IAPOC, 2021



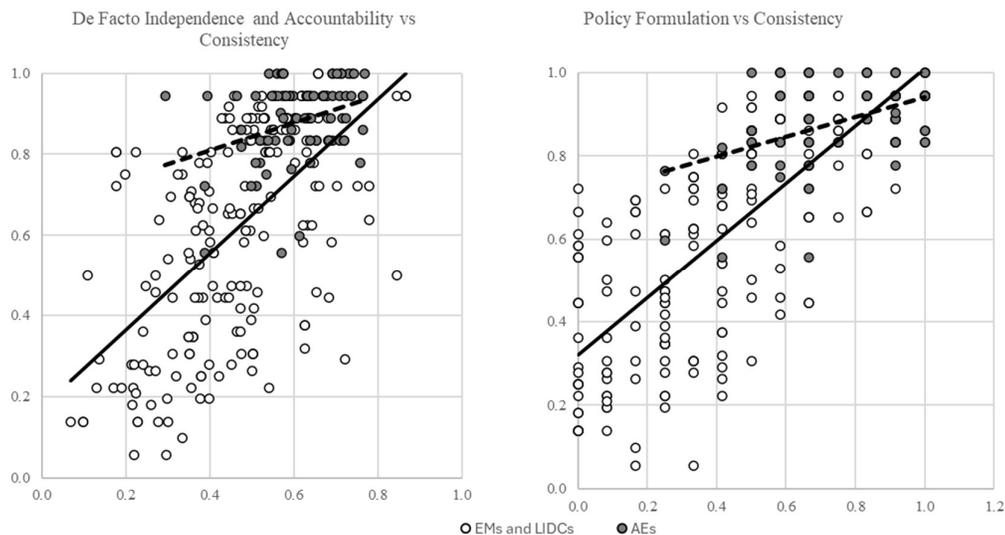
Note: The principle-specific indices are calculated in the same way as the IAPOC index, but using criteria related to a single principle only. Of the 225 criteria comprising the IAPOC metric, 85 capture transparency, 125 relate to coherent aspects of MPFs, and 15 capture consistency. The score for each country group is an unweighted average for all the countries in that group. The country groups follow Table 1.

Source: Unsal et al. (2022), Authors' calculations.

We conjecture that there are two main reasons why some EMs and LIDCs continue to struggle with achieving Consistency in monetary policymaking. First, when de facto Independence and Accountability are weak, central banks are more vulnerable to political influence, which can steer their Policy and Operational Strategy toward suboptimal practices. This often results in the adoption of additional objectives or tools without clear justification or operational feasibility. Even in the absence of persistent interference, political pressure may resurface during periods of economic stress—common in EMs and LIDCs—leading central banks to deviate from their established frameworks for extended periods.

Indeed, across EMs and LIDCs, the correlation between Consistency and de facto Independence and Accountability is relatively strong at 0.58 (Figure 4.10). In contrast, the correlation with de jure arrangements is much weaker, at just 0.21, suggesting that effective implementation of central bank laws and regulations plays a more critical role than formal legal frameworks in shaping actual policy practices. In AEs, both correlations are lower (0.30 and 0.00, respectively), as Consistency is already high—around 0.8—and variation in de facto or de jure Independence and Accountability is much more limited.

**Figure 4.10. Consistency: Correlations with De facto Independence and Accountability and Policy Formulation, 2007-2021, AEs, EMs, and LIDCs**



Note: The principle-specific indices are calculated in the same way as the IAPOC index, but using criteria related to a single principle only. Of the 225 criteria comprising the IAPOC metric, 85 capture transparency, 125 relate to coherent aspects of MPFs, and 15 capture consistency. The score for each country group is an unweighted average for all the countries in that group. The country groups follow Table 4.1.

Source: Unsal et al. (2022), Authors' calculations.

Second, data and capacity constraints may also hinder the achievement of Consistency. In particular, the Policy Formulation sub-pillar (Sub-pillar 4 under the Policy and Operational Strategy) of the IAPOC metric explicitly evaluates whether and how data and quantitative tools

are incorporated into policy formulation. It assesses whether central banks consider the outlook for key objectives and numerical targets, the expected policy path, and relevant risks and contingencies. Given the technical complexity and time-sensitive nature of monetary policymaking, weaknesses in this area can lead central banks—especially in the face of shocks—to experiment with ad hoc approaches. In our sample, the correlation between Policy Formulation and Consistency is notably strong at 0.75 for EMs and LIDCs, compared to a more moderate 0.45 in AEs (Figure 4.10), underscoring the importance of analytical capacity for consistent policy implementation.

#### 4.5. Conclusion

This chapter documents the evolution of MPFs across 50 countries in terms of Independence and Accountability, Policy and Operational Strategy, and Communication (IAPOC) over 2007-2021. Based on the IAPOC index provided by Unsal et al. (2022), it uses a principle-based approach, where Transparency, Coherence, and Consistency of MPFs are jointly considered. By shifting the focus away from monetary policy or exchange rate regime classifications, the chapter comprehensively covers how policy design, implementation, and communications within the MPF have changed across different country groups and over time. This progress toward a multidimensional view of MPFs, as captured by the IAPOC index, is key for EMs and LIDCs, for which the existing indices and classifications fall short of capturing the varied, heterodox, and fast-changing nature of monetary policymaking.

The IAPOC index reveals that MPFs are evolving rapidly in LIDCs and remain dynamic in EMs. Much of this heterogeneity and change is driven by the index's novel focus on the Policy and Operational Strategy and Communications pillars. In contrast, the Independence and Accountability pillar appears more persistent across countries, as slow-moving de jure arrangements often obscure progress in de facto implementation.

Overall, while EMs and LIDCs have made substantial strides in developing their MPFs since 2007, they continue to lag behind AEs across several key dimensions. In particular, many still face challenges in achieving Consistency between “what they say they do” and “what they actually do”—especially in contexts where multiple objectives and tools are pursued without a clearly articulated framework. We argue that low de facto Independence and Accountability, combined with capacity constraints and weaknesses in policy formulation, are key drivers of these inconsistencies. This, in turn, may limit the effectiveness of monetary policy in anchoring inflation expectations—particularly during times of economic stress or external shocks.

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