

Monetary Policy Frameworks: An Index and New Evidence

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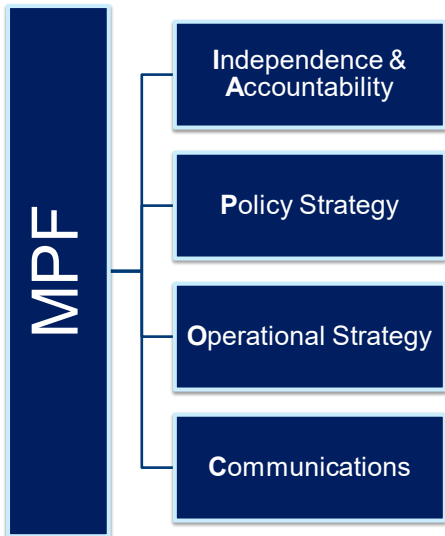
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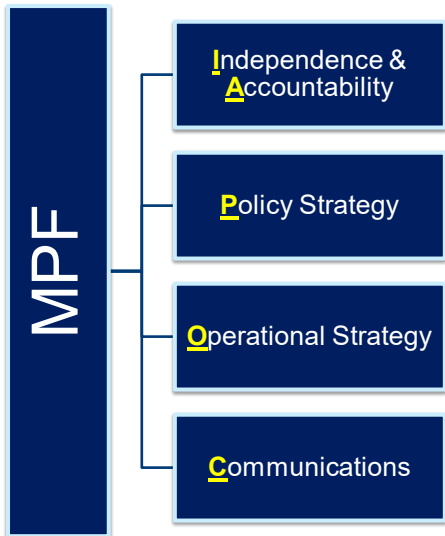
1. An index of MPFs

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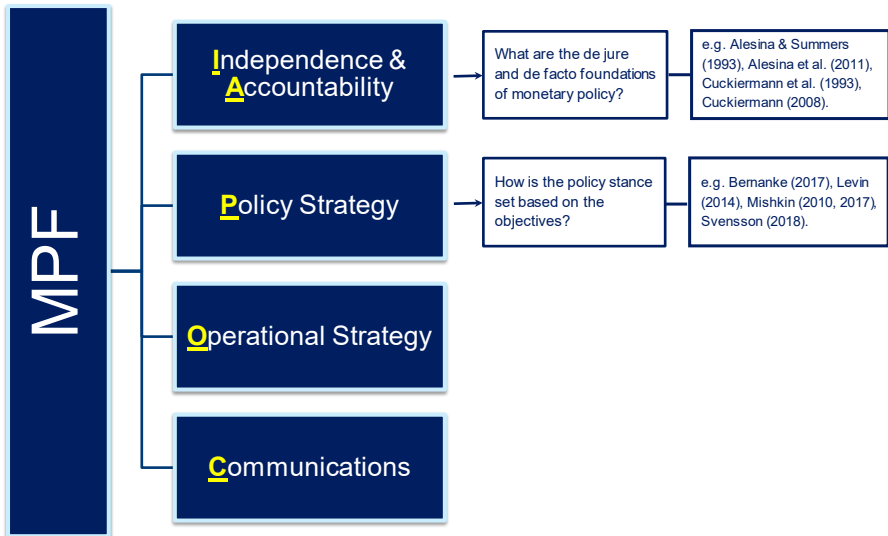
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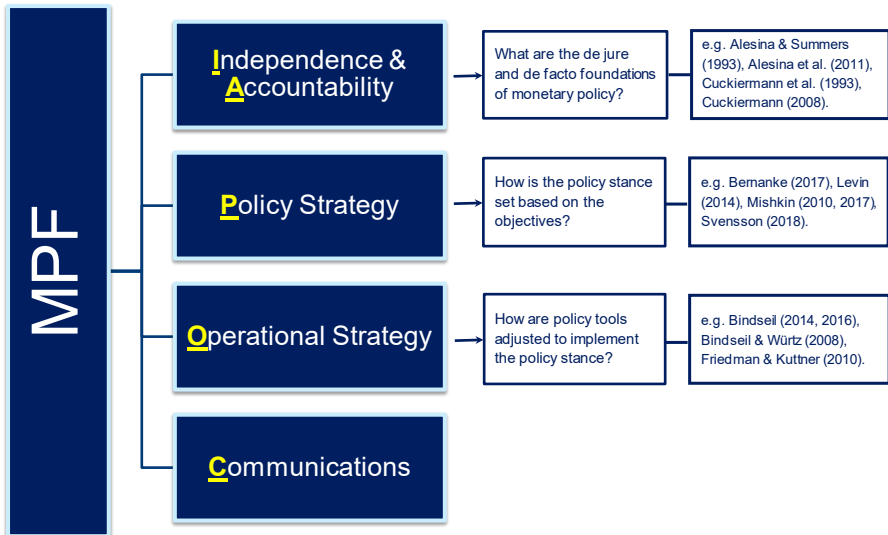
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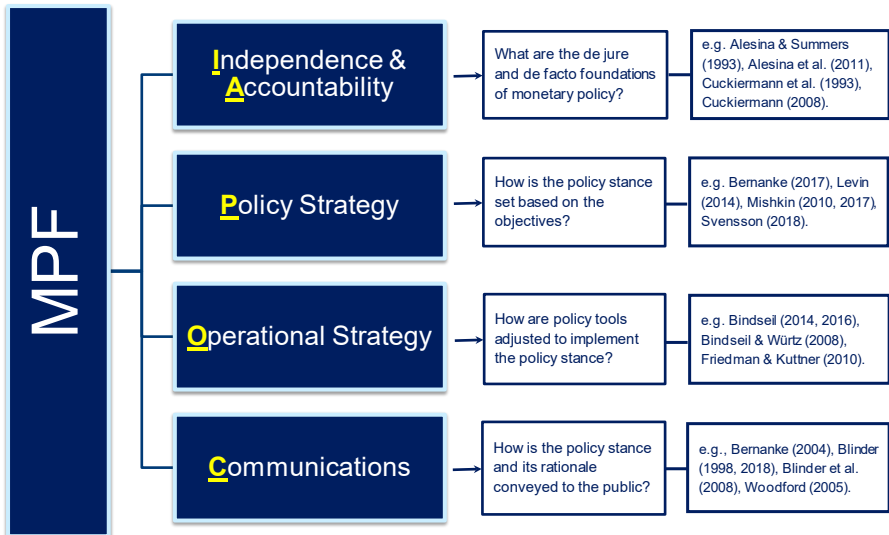
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2. Contribution

- ▶ Comprehensive up-to-date account of MPFs—the IAPOC index.
- ▶ Complements:
 - ▶ Coarse groupings, such as exchange rate or monetary policy regime classifications (e.g. Ilzetzki et al., 2017; IMF AREAER).
 - ▶ Narrower views, such as central bank transparency indices (e.g. Dincer et al., 2019).
 - ▶ Piecemeal approaches, such as central bank independence indices (e.g. Garriga, 2016).
- + Focuses on monetary policy as opposed to other central bank functions.
- ▶ Detects patterns across countries and changes over time.
 - ▶ Within and across the 4 pillars.
- ▶ Important for EMDEs, further accentuated in the context of COVID-19.
 - ▶ Considerable experimentation with hybrid regimes and multiple objectives/instruments more recently.

1. An index of MPFs
2. Contribution
3. Coverage
4. Methodology
5. Data collection and scoring
6. The IAPOC index
7. Concluding remarks

3. Coverage

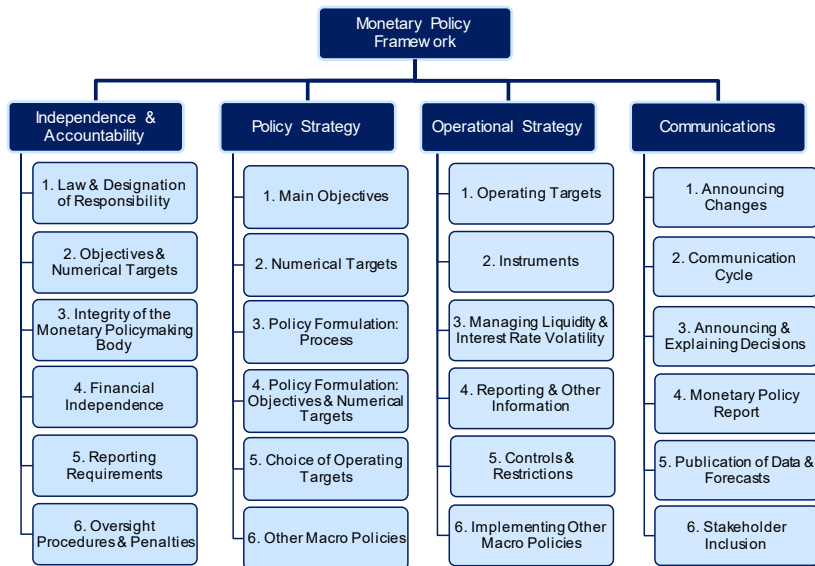
- ▶ **Applicability:**
 - ▶ Requires:
 - (i) Scope for monetary policy (excl. hard pegs).
 - (ii) Central bank website.
 - ▶ Annual frequency.
- ▶ **Sample in this paper:** →
 - ▶ 20 EMDEs & 10 AEs.
 - ▶ 5 years: '07, '10, '13, '16, '18.
- ▶ **Database being expanded.**

Country	Monetary policy regime ¹
Emerging and developing economies	
1 ARG	Money targeting/Other/Inflation targeting/Money targeting
2 BRA	Inflation targeting
3 CHL	Inflation targeting
4 CHN	Money targeting
5 COL	Inflation targeting
6 IND	Other/Inflation targeting
7 IDN	Inflation targeting
8 KEN	Money targeting/Other
9 MEX	Inflation targeting
10 MYS	Other
11 NGA	Money targeting
12 PHL	Inflation targeting
13 POL	Inflation targeting
14 RWA	Money targeting
15 SRB	Inflation targeting
16 THA	Inflation targeting
17 TUR	Inflation targeting
18 UGA	Money targeting/Inflation targeting
19 UKR	Money targeting/Other/Inflation targeting
20 ZAF	Inflation targeting
Advanced economies	
1 AUS	Inflation targeting
2 CAN	Inflation targeting
3 CZE	Inflation targeting
4 EMU	Other
5 GBR	Inflation targeting
6 ISR	Inflation targeting
7 JPN	Other/Inflation targeting
8 KOR	Inflation targeting
9 NZL	Inflation targeting
10 USA	Other

¹Source: IMF AREAER

4. Methodology

(a) The IAPOC index



4. Methodology

(b) Granular criteria

- ▶ 286 criteria—‘the devil is in the details’.

Example: Numerical targets, incl. an inflation/price level target?

- ▶ Definition?
 - ▶ Time horizon? Medium-term?
 - ▶ Body responsible for setting?
 - ▶ Revised? Under which conditions? Actual revisions?
- ▶ Pre-defined answers that are self-evident & mutually exclusive.
→ mostly Y/N or binary.
 - ▶ Formulated to rely on specific public information from the same resources across countries.
 - ▶ Avoid conditional criteria or favoring country-specific circumstances.

4. Methodology

(c) Example of actual criteria—Numerical monetary policy targets

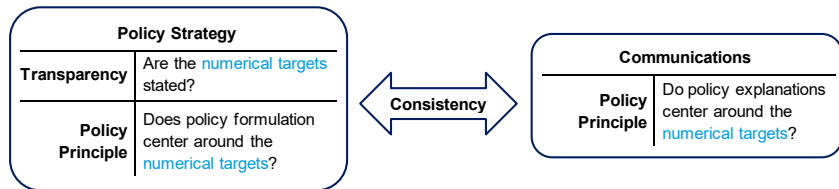
- Are there numerical **targets**, including an inflation/price level target?
- Does the central bank specify the indices/data series that **define** these targets?
- Does the central bank explain the relevant **time horizon** over which these targets should be met?
- Is the time horizon for these targets the **medium-term**?
- Is it clear **who** sets these targets?
- **Who** sets these targets?
 - The central bank and the government through joint consultations.
 - The central bank or government alone.
 - An individual.
- Does the central bank specify **when** these targets may be revised?
- **When** may the targets be revised?
 - At a fixed, low frequency, once every five or more years.
 - More often.
- Does the central bank explain the **conditions** under which these targets may be revised?
- Under which **conditions** may these targets be revised?
 - As part of a comprehensive review of the entire monetary policy framework.
 - Other.
- Have any of these targets been **revised**?
 - No, or yes, but as part of a comprehensive review of the entire monetary policy framework.
 - Yes, but not as part of a comprehensive review of the entire monetary policy framework.

4. Methodology

(d) 3 Cornerstones

- ▶ The granular nature of criteria is explicitly anchored on 3 cornerstones:
 1. **Transparency:** Availability and clarity of information (Blinder et al. 2001).
 2. **Policy principles:** Features that are unequivocally desirable or reflect consensus.
 3. **Consistency:** In terms of objectives, medium-term numerical targets, tools.

Example: Numerical targets in policy formulation



- ▶ As a by-product, we can construct an IAPOC transparency index.

5. Data collection and scoring

1. Manually collect and document public information:

- ▶ End-of-period, except for Communications.

2. Sources:

- ▶ **Independence & Accountability:** Website, central bank laws, annual report.
- ▶ **Policy Strategy:** Website, policy strategy documents.
- ▶ **Operational Strategy:** Website, operational strategy documents.
- ▶ **Communications:** Website, press releases, decision announcements & explanations, monetary policy/inflation reports.

→ Real-time information from archived central bank websites (www.archive.org).

3. Scoring:

- ▶ Calculated as an unweighted average.
 - ▶ IAPOC Index = $\bar{P} \in [0, 1]$, where $P = \{IA, P, O, C\}$.
 - ▶ Each pillar (P) is an average of its 6 building blocks (B): $P = \bar{B}_P$.
 - ▶ Each building block (B) is an average of its criteria (C): $B_P = \bar{C}_{P,B}$.

6. The IAPOC index

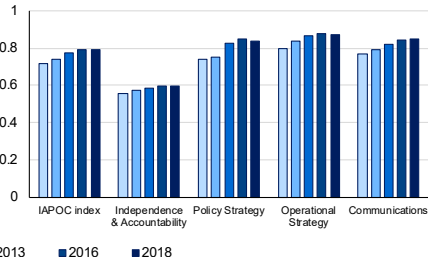
(a) Captures variation across countries and over time.

Average IAPOC index across pillars and over time

EMDEs



AEs



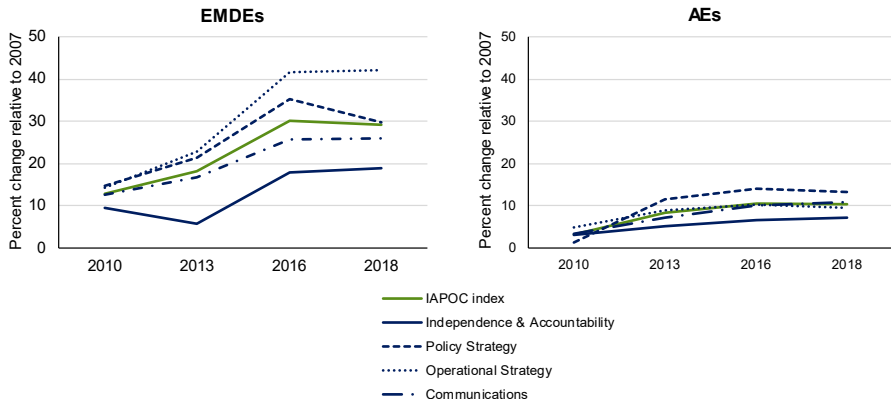
Summary Statistics of the IAPOC index

	Average across countries over time		Across countries in 2018	
	EMDEs	AEs	EMDEs	AEs
Mean	0.59	0.76	0.63	0.79
St. dev.	0.06	0.04	0.12	0.05
Persistence	0.57	0.34		
Range	[0.51,0.65]	[0.71,0.80]	[0.38, 0.81]	[0.70, 0.89]

6. The IAPOC index

(b) Reflects evolving MPFs, particularly in EMDEs.

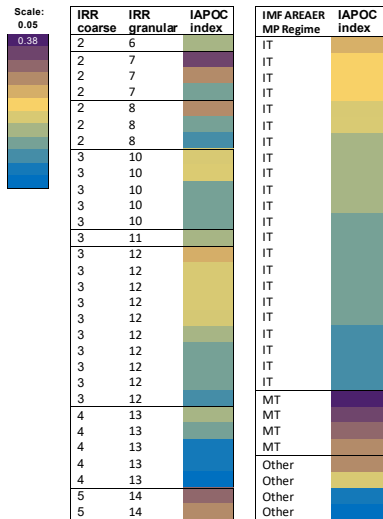
Average change in the IAPOC index over time



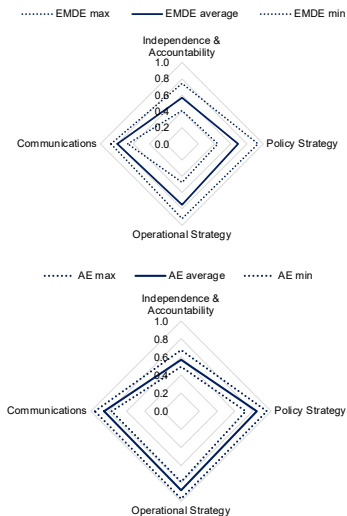
6. The IAPOC index

(c) Detects variation within regimes.

Granularity of the IAPOC index vs. Ilzetski et al. (ER, 2016) and IMF AREAER (MP, 2018) regime classifications



Variation in the IAPOC index among inflation targeters, 2018

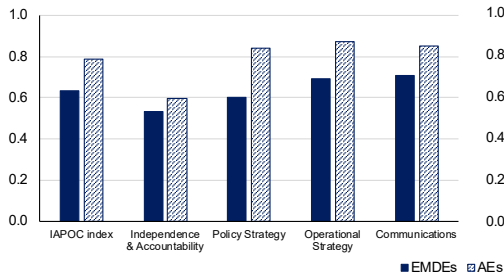


6. The IAPOC index

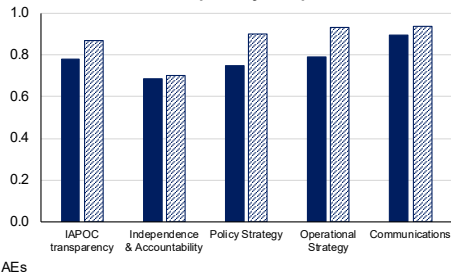
(d) Provides a transparency-specific index as a by-product.

- ▶ Focusing only on transparency may give a misleading sense of MPFs in EMDEs.

IAPOC index and pillars, 2018



IAPOC transparency and pillars, 2018



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6. The IAPOC index

(d) Provides a transparency-specific index as a by-product.

- ▶ Both the IAPOC index and its transparency component present a dynamic view of MPFs.

Comparison with Dincer, Eichengreen & Geraats (2019) central bank transparency index

Correlation with DEG CBT index

	EMDEs	Full sample
IAPOC index	0.72	0.79
IAPOC transparency	0.74	0.81

Correlation with Δ DEG CBT index

	EMDEs	Full sample
Δ IAPOC index	0.25	0.23
Δ IAPOC transparency	0.26	0.24

Incidence of no change

	DEG index	IAPOC index
EMDEs	60.8%	13.7%
AEs	56.7%	16.7%

7. Concluding remarks

- ▶ The IAPOC index captures the soundness of the MPF and its pillars.
 - ▶ Comprehensive and granular.
 - ▶ The pillars and the 3 cornerstones can be used flexibly.
- ▶ Caveat: manual classification, translations, and reliance on online and public resources may introduce some noise into the index.
- ▶ Currently expanding coverage.
 - ▶ 50 countries, 6 years including 2020.

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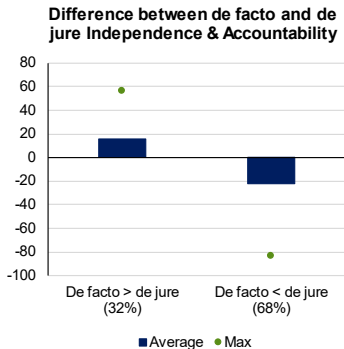
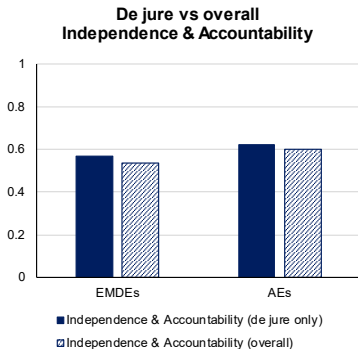
The IAPOC index goes beyond de jure independence

Example: De jure vs de facto criteria

De jure criteria	De facto criteria
Monetary policymaking body	
<ul style="list-style-type: none">• <u>By law</u>, is the body(s) responsible for formulating monetary policy within the central bank identified?• <u>By law</u>, is a single body identified?• <u>By law</u>, is this body(s) responsible solely for formulating monetary policy?• <u>By law</u>, is this body(s) a committee?	<ul style="list-style-type: none">• <u>In practice</u>, does the central bank identify the body(s) responsible for formulating monetary policy within the central bank?• <u>In practice</u>, is a single body identified?• <u>In practice</u>, is this body(s) responsible solely for formulating monetary policy?• <u>In practice</u>, is this body(s) a committee?• <u>In practice</u>, is this body(s) the same as the legally responsible monetary policymaking body?
Oversight	
<ul style="list-style-type: none">• <u>By law</u>, could there be periodic external reviews of monetary policymaking by an independent committee?	<ul style="list-style-type: none">• <u>In practice</u>, during the current Governor or the predecessor's term, has there been any external review of monetary policymaking by an independent committee?

The IAPOC index goes beyond de jure independence

Captures de facto and accountability



Correlation between the IAPOC index and CBI indices, 2007-2010

CBI indices	IAPOC Independence & Accountability	IAPOC index
Dincer & Eichengreen	0.60	0.08
Dincer & Eichengreen (W)	0.58	0.18
Garriga	0.31	0.00
Garriga (W)	0.40	0.03