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Moving targets? Inflation targeting frameworks, 1990–2025[1]

Recent and upcoming reviews of monetary policy frameworks have been putting the spotlight on the evolution of inflation targeting. This article provides context by using a new database of changes to the inflation targeting frameworks of 26 central banks since 1990. We use the data to track changes in the frameworks' flexibility in terms of the specification of the inflation target and the role of other objectives, ie employment (or output) and financial stability. While the specification of the numerical targets has become stricter (eg points rather than ranges), greater flexibility has taken the form of less strict / longer horizons to achieve them and more weight on other objectives, especially employment/output. These trends are typically more pronounced in advanced economies and have widened differences with their emerging market peers.

JEL classification: E12, E3, E52

Inflation targeting has turned 35. Since its birth, it has spread across the globe and proved remarkably durable.[2] Part of its appeal is to offer central banks a form of "constrained discretion" to pursue price stability (Bernanke and Mishkin (1999)). What is much less clear is where exactly to strike the balance between constraints and discretion. Policymakers and scholars have worried about both too little flexibility (eg Alan Greenspan)[3] and too much (eg Taylor (2022)). The close attention given to recent framework reviews confirms that the optimal specification remains up for debate (eg Eggertsson and Kohn (2023)).

This study aims to inform the debate. It develops a new database of changes to inflation targeting frameworks since the regime's adoption to document systematically how the flexibility of framework has evolved in a sample of 26 central banks from both advanced (AE) and emerging market economies (EMEs). Flexibility is here defined as the degree to which the framework tolerates fluctuations in (headline)

[1] The views expressed do not necessarily reflect those of the Bank for International Settlements. We thank Sarah Bell, Blaise Gadanecz, Gaston Gelos, Boris Hoffman, Benoît Mojon, Piti Disyatat, Tom Rosewall, Phurichai Rungcharoenkitkul, Andreas Schrimpf, Hyun Song Shin and Frank Smets for helpful comments and suggestions. We are also grateful to Albert Pierres Tejada for excellent research assistance, and for colleagues at several central banks for their help in locating sources.

[2] Inflation targeting – a price-stability-oriented monetary policy framework that sets specific and publicly known numerical targets – was first adopted in New Zealand in 1990. See Rose and Rose (2024) and Borio (2024).

[3] See eg Blinder (2006).

Key takeaways

- *The features shaping the flexibility of inflation targeting have evolved substantially since the inception of the regime in the early 1990s.*
- *While numerical targets have become stricter (eg points rather than ranges), greater flexibility has taken the form of less strict / longer horizons to achieve the targets and greater weight on other objectives, especially employment/output.*
- *These trends have typically been stronger in advanced economies, tending to widen differences with their emerging market peers.*

inflation and allows for the pursuit of other objectives, specifically employment (or output) and financial stability.[4]

To measure that flexibility, we construct a range of quantitative indicators for each central bank and year. The information is drawn *exclusively* from official documents laying out formal objectives and how to make them operational. The documents form a kind of "constitution" that guides policymaking. The analysis is similar in spirit to the construction of de jure indices of central bank independence or exchange rate flexibility (Romelli (2022); IMF (2004)). In particular, our analysis does not examine the actual *conduct* of the central bank within a given framework, such as by estimating central bank reaction functions (eg Taylor (1993)). Clearly, the de facto degree of flexibility could vary depending on circumstances.

Three key findings stand out. First, while the specification of the numerical targets has become stricter (eg points rather than ranges), the horizon over which to achieve them has become less strict, ie vaguer and longer. Second, objectives other than inflation, especially employment and output, have gained ground. Third, these trends are typically stronger in AEs and have tended to widen differences with their EME peers. Overall, the pattern is consistent with the idea that stronger confidence in hitting the inflation target and in the framework's credibility, as reflected in stricter numerical targets but longer horizons, has provided the leeway to pursue other objectives.

The rest of the article is organised as follows. The first section describes the basic concepts and lays out the methodology. The second considers the current state of play, comparing the flexibility of current frameworks across countries and focusing on the distinction between AEs and EMEs. The third examines the evolution of the degree of flexibility and provides some possible explanations, laying the ground for some final considerations.

Basic concepts and methodology

Constructing indicators of an inflation targeting framework's flexibility involves a number of steps: defining the object of analysis, ie the inflation targeting framework

[4] The present analysis complements other descriptive studies documenting the features of inflation targeting regimes but without focusing on flexibility (Mishkin and Schmidt-Hebbel (2007); Niedźwiedzińska (2021); Ciżkowicz-Pękała et al (2019); Unsal et al (2022)).

itself, defining flexibility and developing the measurement methodology. Consider each step in turn.

The object of analysis – inflation targeting – can be somewhat fuzzy. To varying degrees, all central banks seek to achieve price stability. And views can differ on whether a central bank is operating an inflation targeting regime or not, regardless of official statements (eg Buiter (2004)). For example, views might differ on the how specifically price stability must be defined and the permissible weight attached to the exchange rate and monetary aggregates. In what follows, we define inflation targeting broadly, as a framework that specifies and announces an explicit numerical objective for inflation to be reached over a certain horizon.

The resulting sample is representative of the set of inflation targeting frameworks in both AEs and EMEs. It covers 11 AE and 15 EME central banks.[5] Adoption dates range from 1990 (New Zealand) to 2016 (India). Given how infrequently regimes change, the indicators are annual.

We define *flexibility* as the degree to which the framework deviates from one in which the central bank's sole objective is to target a consumer price index over a short and numerically specified horizon – one to two years. In other words, this is the (theoretical) benchmark for *zero flexibility*. In this case, the policymaker has little discretion to tolerate fluctuations in inflation to pursue other objectives, such as employment or financial stability, and address the associated trade-offs.[6]

Greater flexibility has benefits as well as possible costs. It helps to reduce the economic costs of a strict pursuit of the inflation objective. The costs may be in terms of other objectives, such as output and financial stability, or the preservation of price stability itself on a more sustainable basis. To use King's famous expression, no central bank is an "inflation nutter" (King (1997)).[7] At some point, however, greater flexibility may also undermine the regime's credibility and raise its economic costs more generally. The trade-offs involved will depend on the workings of the economy, the forces driving it at any given point in time and the broader institutional context.

The construction of the flexibility indicators requires making several additional choices. Graph 1 outlines the structure; Box A delves into the details of the calibration.

The basic idea is to consider two key dimensions of flexibility (Graph 1, green boxes): (i) the flexibility of the *specification of the inflation target* itself; and (ii) the pursuit of *objectives other than price stability*. The specification of the target is what defines the tolerance for the dispersion of inflation outcomes and provides the leeway to pursue other objectives.

The next step in the quantification of flexibility is key (Graph 1, blue boxes). We consider two aspects of the specification of the target: (i) the definition of the

[5] We cover BIS member central banks only. The grouping follows BIS convention. AEs are Australia, Canada, the euro area, Iceland, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. EMEs are Brazil, Chile, Czechia, Hungary, Indonesia, India, Israel, Korea, Mexico, Peru, Romania, the Philippines, South Africa and Thailand. See Annex C for additional details.

[6] In modern macroeconomic parlance, flexibility is key when the central bank faces shocks that create policy trade-offs. In this context, flexibility is not relevant when there is a "divine coincidence" between objectives, eg after a demand-driven inflation shock (Blanchard and Galí (2007)).

[7] For instance, flexibility allows policymakers to respond less strongly to supply-driven inflation "shocks", as AE central banks often do (Hofmann et al (2024)). See Svensson (1997) for an early elaboration of the concept of "flexible inflation targeting".

numerical target itself*;* and (ii) the *horizon* over which to achieve it. And we identify two objectives other than price stability: (iii) employment or output ("real economy"); and (iv) financial stability.[8] Importantly, we quantify *separately* the degree of flexibility for each of these four "sub-dimensions" of flexibility. The resulting *core indicators* are the main focus of the analysis.

To construct the four core indicators, we quantify and aggregate the impact on flexibility of a number of features of the framework that correspond to each sub-dimension (orange boxes). Consider the features related to the specification of the target and other objectives, in turn.

The specification of the target describes the level of ambition with respect to the inflation objective. Flexibility can be achieved in two non-mutually exclusive ways (left-hand side of Graph 1): through the specification of the numerical target or through the specification of the horizon over which the target is to be achieved. For instance, in the case of the numerical target, a range is less restrictive than a point. And a target defined in terms of headline inflation is more ambitious (less flexible) than one defined in terms of core inflation or with escape clauses (eg excluding changes due to taxes and volatile prices): headline is more volatile and hence harder to control. In the case of the horizon, the key distinction is between one that is short and quantitative versus one that is long and qualitative (eg "over the medium term").

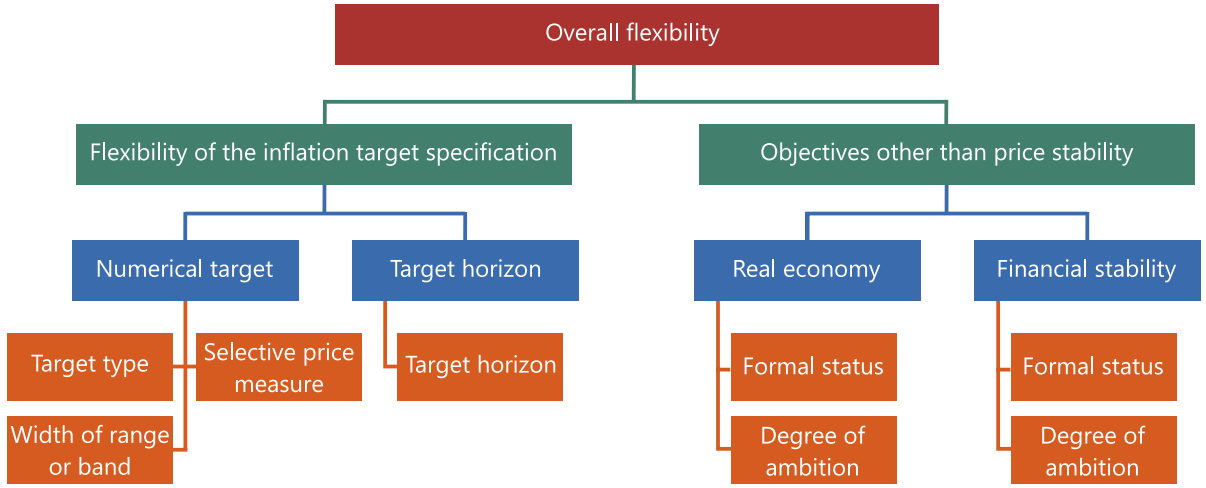
The required flexibility to pursue an objective other than price stability (right-hand side of Graph 1) depends on the weight attached to that objective. Thus, for each objective, we consider its status (eg primary, secondary or merely a consideration) and the level of ambition (eg just mitigating fluctuations in output or employment or achieving its maximum level).

Taken together, the four indicators provide a multifaceted picture of a given inflation targeting framework's degree of flexibility. With each core indicator ranging from 0 (minimum flexibility) to 1 (maximum), the most flexible central bank would be one that scored 1 for each of the four core indicators. Concretely, this would correspond to a central bank that: (i) targeted a wide range for core inflation over a qualitative long horizon; and (ii) considered real activity and financial stability as objectives on a par with price stability and had ambitious goals for both. This would be the case if the central bank aimed at maximum employment and used monetary policy explicitly to lean against the build-up of financial imbalances.

While, in principle, it would be possible to aggregate across sub-dimensions and construct a single indicator of flexibility, we regard this as a step too far. For one, focusing the discussion on the four indicators highlights the richness of the various facets of flexibility. In addition, the trade-offs between objectives and the interactions of the different dimensions are too dependent on specific views about the workings of the economy and on country-specific features. Aggregation would be too subjective and give a sense of false precision.

[8] We chose the two objectives at the heart of central bank functions. The real economy has been central to discussions of the merits of inflation targeting from the very beginning, as exemplified in the Taylor (1993) rule. Financial stability emerged around the early 2000s, linked to the possible build-up of financial imbalances (Borio and Lowe (2002); Cecchetti et al (2002)), and became more prominent in the debate following the Great Financial Crisis (eg Woodford (2012)). Objectives around eg climate and inequality have been discussed recently, but without affecting inflation targeting frameworks.

Taxonomy of inflation targeting frameworks Graph 1



Source: Authors' elaboration.

A couple of examples illustrate the point. Consider first the interaction between the numerical specification of the target and the horizon. How does overall flexibility change when the two move in opposite directions, eg the specification becomes tighter, but the horizon lengthens?[9] This requires taking a view on the effect on inflation expectations, the credibility of the regime and the economy more generally. Similarly, the trade-offs between inflation, output and financial stability depend crucially on how low inflation interacts with the build-up of financial imbalances and on the impact of monetary policy over different horizons. Views can differ substantially on *all* of these issues (eg Borio (2024); Svensson (2014)) as well as on which country-specific features matter most. And yet taking a stand on these issues would be critical to set the weights of the four indicators in an overall index.

Aggregation, by contrast, is more straightforward at the level of the features of each sub-dimension (eg the formal status and degree of ambition for an objective). To be sure, here, too, a degree of judgment is required to assign weights (Box A). But the features are more similar and can be more easily compared.

The final, more practical, issue concerns the choice of central bank documents used as a basis for constructing the indicators. We draw exclusively on official documents that describe the features of the regime – objectives and strategy. Objectives, which are often couched in high-level terms (eg "price stability"), are typically set in law. The strategy, which operationalises the objective(s), is more detailed and is typically contained in documents such as specific agreements with the government,[10] standalone statements (eg the Federal Reserve's Statement on Long-Term Objectives of Monetary Policy) and annual or inflation reports. We do not include speeches. While relevant, they often reflect individual policymakers' views, whereas strategy statements embody a broader consensus.

[9] Over a certain range, tightening the numerical target while lengthening the horizon can, on balance, *increase* flexibility, by better anchoring expectations while simultaneously making the target more achievable. But, after a point, the same shift could de-anchor expectations and *reduce* flexibility.

[10] See Box B for a discussion of the roles of the government and the central bank in shaping the strategy.

Box A

Measuring inflation targeting flexibility

This box explains the construction of core indicators for the four key sub-dimensions of flexibility (Graph 1, blue boxes). We first explain the scoring system for the (eight) features of inflation targeting frameworks (orange boxes). We then explain how they are combined to construct the core indicators. Annex C provides additional details about coding choices and data sources.

The explanation is organised around Table A1. The second column shows the four key sub-dimensions, ie the flexibility of (i) the numerical target and (ii) target horizon, and objectives for (iii) the real economy and (iv) financial stability.① The third column shows the eight features that can be adjusted to increase flexibility relative to the *no-flexibility* benchmark. In this (theoretical) benchmark, the policymaker's sole objective is to meet a point target for headline inflation over a specific (short) time horizon. The policymaker thus has few options in responding to policy trade-offs. For instance, if energy prices surge, policy rates must rise so that inflation gets back to target over the horizon. And the policymaker has no formal mandate to consider real economic costs to justify a more gradual response.

Measuring inflation targeting flexibility: scoring system

Table A1

(1) Dimension	(2) Sub-dimension	(3) Feature	(4) Scoring
A. Flexibility of the inflation target specification	A1. Numerical target	A1.1 How flexible is the type of target?	0 = point target
			0.5 = point target with tolerance interval (or range with midpoint)
			1 = range
		A1.2 How wide is the target range or interval?	0 = 1 percentage point
			0.5 = 2 percentage points
			1 = more than 2 percentage points
		A1.3 How selective is the price index?	0 = CPI inflation target (or equivalent)
			1 = core inflation target (or target with "escape clauses")
	A2. Target horizon	A2.1 How flexible is the target horizon?	0 = numerical horizon
			1 = qualitative (eg "over the medium term")
B. Objectives other than price stability	B1. Real economy	B1.1 What is the status of the objective?	0 = not an objective or consideration
			0.33 = only a consideration
			0.66 = secondary objective
			1 = primary objective
		B1.2 What is the degree of ambition?	0 = vague
			0.4 = dampen volatility
			0.8 = high/maximum level
			1 = shortfall from maximum level
	B2. Financial stability	B2.1 What is the status of the objective?	0 = not an objective or consideration
			0.33 = only a consideration
			0.66 = secondary objective
			1 = primary objective
		B2.2 What is the degree of ambition?	0 = vague
			0.5 = qualified leaning against the wind (LAW)
			1 = unqualified LAW

Source: Authors' elaboration based on central bank or government reports and statements (see Annex C)..

Flexibility of individual features

For each of the eight features of inflation targeting frameworks, we list the main specification options, rank these options by degree of flexibility and attribute a corresponding score (Table A1, final column). The least and most flexible options earn a value of 0 and 1, respectively. For options that fall in between, we generally give an intermediary score (eg 0.5 when there are three options, and 0.33 and 0.66 when there are four options).

To illustrate the approach, consider first the type of inflation target (A1.1). Following Ehrmann (2021), the three options are: a *point* target, a point target with a tolerance *interval* and a target *range*. A range provides more flexibility than a point because it allows for more inflation paths to fall within the target. Intervals also offer more flexibility than points because they imply greater tolerance for fluctuations in inflation, but they provide less flexibility than ranges because the point within the interval gives clearer guidance about the targeted inflation rate (Ehrmann (2021)). And if the central bank seeks to respect that guidance, this reduces flexibility. The next margin of adjustment is the width of the range or interval (A1.2). For simplicity, we consider three options: 1, 2 and more than 2 percentage points. The wider the range, the higher the flexibility and hence the score.②

The next feature is the target price measure (A1.3). The less flexible option is a CPI target, since the central bank must account for changes in all items of the consumption basket. The more flexible option is to use a core inflation target (which excludes particularly volatile items eg food and energy) or "escape clauses", ie a list of types of price changes that the central bank can ignore (eg administrative prices).

As regards the inflation target horizon (A2.1), we consider two options. When there is a numerical horizon, we assign a 0. In that case, the policymaker has less leeway to "look through" unwanted inflation outcomes to avoid abrupt changes in interest rates. For instance, the Bank of Israel aims to meet the target *within two years*. We give a 1 when the horizon is qualitative. For instance, the Central Bank of Norway says that it aims to achieve its target "in the medium term". In most cases, numerical horizons are one or two years. Qualitative horizons are thus also typically longer.

Consider next objectives for the real economy and financial stability. For each objective, we first assess its formal status (B1.1 and B2.1). The highest-scoring option is when the objective is on par with price stability. This gives policymakers the strongest mandate to deviate from strict inflation targeting. The other options are for the objective to be secondary to price stability, or to be a simple *consideration*, ie an indication in the strategy statement that the objective can be taken into account, but without being grounded in law.

Second, we assess the objective's degree of ambition. For the real economy, the score is lower when the goal is merely to dampen economic volatility, and higher when it is to reach full employment.③ For financial stability, we focus on the degree to which the central bank can act to prevent the build-up of financial imbalances – denoted as "lean against the wind" (LAW), for want of a better term. Since imbalances often develop in a phase of moderate inflation, such a scenario would generally imply a trade-off with price stability – unlike a scenario in which the economy is in freefall. We also consider whether the possibility to lean against the imbalances is qualified (less ambitious), such as through clauses stating "in exceptional circumstances" or that monetary policy is a "second line of defence" (relative to eg prudential policy).

Core indicators

To summarise the evolution of flexibility, we construct one core indicator for each sub-dimension in the second column of Table A1 (and blue boxes in Graph 1). How to best weigh different features requires judgment. For the numerical target, we use a simple average of the scores for the target type, width of range and price measure. For each objective, we give a 75% weight to the formal status, and 25% to the degree of ambition. This eg ensures that an objective gets an "uplift" if it is ambitiously worded, but without achieving a higher weight than having a formal status.④

① Governance and accountability mechanisms help to shape credibility. We exclude them from our indicators as they are typically covered in indices of central bank independence. For simplicity, we also ignore objectives for the exchange rate, which are relatively rare and should be best regarded as intermediate targets. We also ignore changes to the level of inflation targets, since this does not affect flexibility per se. ② We give no score when there is no band or range. Otherwise, much of the variation in criterion A2.2 would reflect variation between frameworks with and without bands, similarly to criterion A1.1. ③ We give the highest score for ambitions to minimise *shortfalls* from full employment (Federal Reserve). The Fed introduced this language following its 2020 strategy

review. It also specified that it aimed for inflation "that averages 2% over time". We ignore this change because its implications are ambiguous. On one hand, it reduces the flexibility associated with ignoring past inflation ("bygones"). On the other hand, it could be seen to increase the flexibility to tolerate higher inflation for some time given initial conditions – an important goal of the strategy and the only aspect explicitly mentioned in the statement (another element of asymmetry). ④ This eg means that the core indicator for real economy objectives is similar if there is a vaguely worded primary objective for the real economy or an ambitiously worded secondary objective.

The flexibility of current frameworks

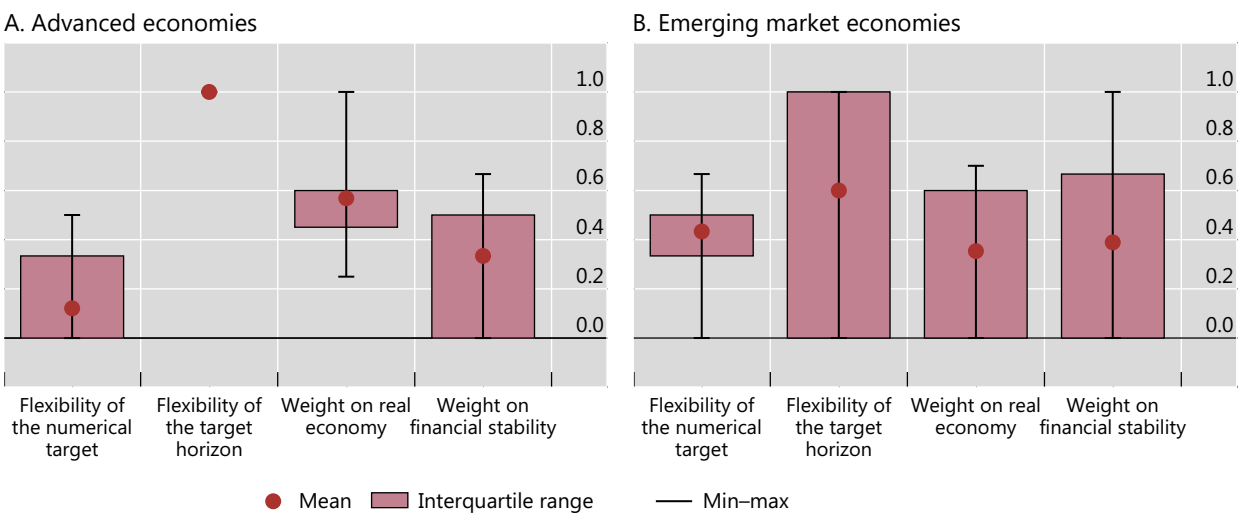
As a starting point, how do frameworks look as of end of 2024 based on the previous indicators? Table 1 lays out the cross-country average value for each of the four sub-dimensions and for the constituent features. Graph 2 portrays summary information of the cross-country dispersion.

AEs and EMEs differ systematically in terms of the specification of the target. AE central banks are significantly stricter in terms of the *numerical target*. More than half of AEs have the strictest specification, ie a point target for headline inflation and no escape clauses (the euro area, Iceland, Japan, the United Kingdom, Sweden, Norway and the United States). All AEs gain flexibility through the *horizon*, which is defined only in qualitative terms. By contrast, EMEs rely on more flexible numerical targets (eg ranges) and are more likely to have specific, shorter-term horizons. This may reflect the greater importance of highly volatile inflation components in EMEs (eg commodity and food prices) that may create large but less persistent deviations from target at any given time. It may also stem from the greater challenges faced in retaining credibility over longer horizons given the history of extended periods of higher inflation.

Another striking difference is the weight of real economy considerations. This weight is around 40% higher for AEs. In part, this is because two thirds of AE central

Inflation targeting flexibility indicators as of end-2024

Flexibility score, by sub-dimension — Graph 2



Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

banks have real economy formal objectives, against only one third of their EME peers. At one end of the spectrum, in Australia and the United States, these formal objectives have the same status as price stability and are specified in terms of maximum (or full) employment rather than more vaguely (eg supporting the government's economic policy objectives). At the other end of the spectrum are several EMEs for which this objective does not figure at all (Czechia, Indonesia, Peru, the Philippines and Romania). One possible reason why AEs have broader real economy mandates is that this flexibility is seen as representing a smaller threat to the credibility of the target than in EMEs given the better inflation history.

By contrast, financial stability has a somewhat *lower* weight in AEs than in EMEs. One reason is that no AE central bank has a formal financial stability objective for monetary policy. Instead, AE central banks often simply have financial stability "clauses" in their strategy statement, around half of which refer to leaning against financial imbalances. In most cases, however, the clause includes significant caveats. This stands in sharp contrast to Korea, where monetary policy – not macroprudential policy – is explicitly stated as the first line of defence against such imbalances.[11]

The dispersion portrayed in Graph 2 shows that, across all facets of flexibility, AE frameworks tend to be more homogenous than those in EMEs. In particular, there is greater diversity across EMEs in terms of real economy and financial stability objectives and the flexibility of the target horizon. This coincides with EMEs being more diverse in terms of inflation histories.

Inflation targeting flexibility as of end-2024

Average scores across countries, 0 (least flexible)–1 (most flexible) Table 1

	Advanced economies	Emerging market economies
A. Flexibility of inflation target specification		
A.1 Numerical target	**0.12[1]**	**0.43[1]**
A1.1 How flexible is the type of target?	0.23	0.53
A1.2 How wide is the range or tolerance band?	0.38	0.62
A1.3 How selective is the price index?	0.00	0.21
A.2 Target horizon	**1.00**	**0.60**
A2.1 How flexible is the target?	1.00	0.60
B. Objectives other than price stability		
B.1 Real economy	**0.57[2]**	**0.35[2]**
B1.1 What status does the objective have?	0.61	0.36
B1.2 What is the degree of ambition?	0.45	0.35
B.2 Financial stability	**0.25[2]**	**0.29[2]**
B2.1 What status does the objective have?	0.24	0.36
B2.2 What is the degree of ambition?	0.32	0.10

[1] Simple average of features A1.1 to A1.3. [2] Weighted average of status (75%) and degree of ambition (25%).

Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

[11] The financial stability weights are highest in Korea and Indonesia. The Bank of Korea has a statutory financial stability objective, but no formal macro- or microprudential responsibilities.

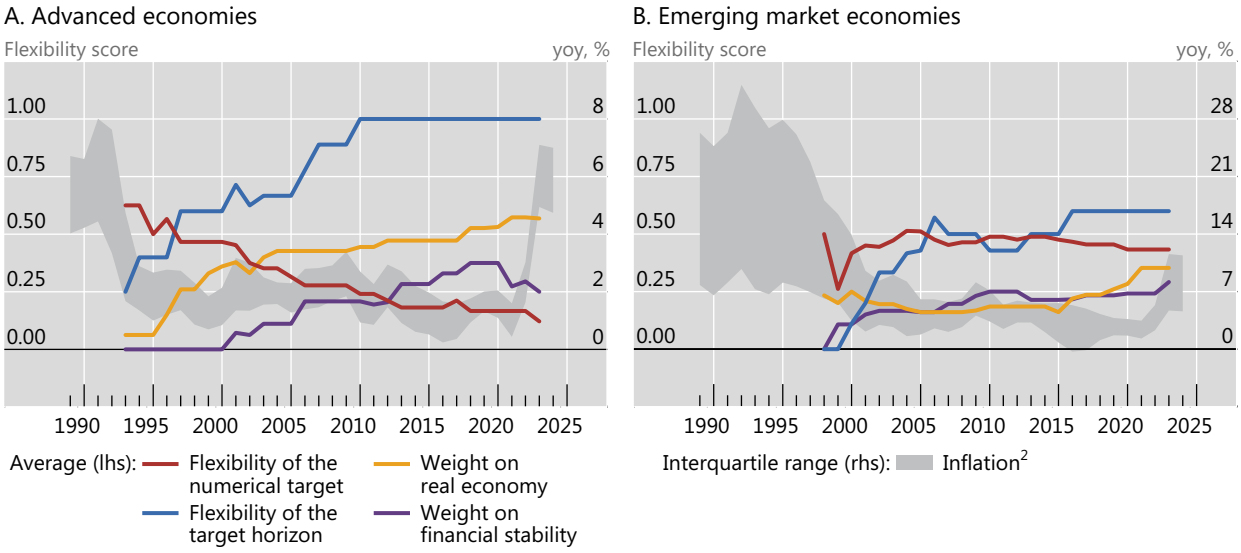
Evolution of the flexibility of the frameworks

While the previous section describes the most recent snapshot, how did the flexibility of the frameworks evolve to reach the current state? In the big picture, three stylised facts stand out. First, the flexibility of numerical targets has declined while that of the horizons has increased. Second, flexibility has grown with respect to objectives other than price stability – real economy and financial stability. Third, these trends are typically starker in AEs.

Delving further into the timing and nature of the changes holds clues about the possible driving forces. The pattern is generally consistent with the idea that stronger confidence in hitting the inflation target and in the framework's credibility, as reflected in stricter numerical targets and longer horizons, has provided more leeway to pursue other objectives and address trade-offs. In addition, the Great Financial Crisis (GFC) seems to have left a significant mark, at least in AEs, which bore the brunt of it. To illustrate these ideas, we inspect average indicator values over time (Graphs 3 and 4). To take into account the possible impact of changes in the composition of the sample, we also consider overall *changes* in core indicators since inflation targeting was adopted (Graph 5) and over subperiods (Annex Graph A.1).[12] Consider the specification of the target and objectives, in turn.

Growing confidence in the ability to control inflation and in the frameworks' credibility, as reflected in benign outcomes, was probably the main factor shaping changes in the target specification until at least the GFC. In AEs, by 2008 core inflation targets and escape clauses had largely been dispensed with, and less well

Inflation target flexibility over time[1] Graph 3



[1] The flexibility score ranges from 0 (least flexible) to 1 (most flexible); the series begin when each group includes at least four central banks. [2] Ten-year moving average.

Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

[12] The composition of the sample changes over time as more jurisdictions adopt inflation targeting. By 2005, around 90% of central banks in the sample had adopted inflation targeting. The graphs indicate that compositional effects are generally not significant.

specified / longer-term horizons had been established (Graphs 4.C and 4.D). Moreover, if ranges or intervals applied at all, they had mostly become quite narrow (+/–1%) (Graph 4.B).[13] As a result, numerical targets had already lost significant flexibility pre-GFC. The picture is less stark in EMEs, where the decline in the level and volatility of inflation generally occurred later. On the eve of the GFC, several (but not all) EMEs had already done away with specific horizons (Graph 4.D), but looser target types (eg ranges) and selective price measures were still relatively common.

The post-GFC phase had a stronger impact on AEs, as policy frameworks adjusted with some delay to certain de facto changes in the conduct of policy. As central banks often struggled to push stubbornly low inflation back to target, the frameworks in AEs often sought to further emphasise a focal point for expectations. This is visible in the continuous fall in the flexibility of AE target types (Graph 4.A). Examples of this trend include dropping ranges (eg euro area) or tolerance intervals (eg Sweden) and adding midpoints (eg Australia). This is consistent with concerns about possible de-anchoring of expectations at a time of persistent shortfalls of inflation from target, including with the possibility of costly deflation.[14] Better anchoring could be seen as yielding greater leeway to put weight on real economy, at least in the near term. By contrast, in EMEs, while some further adjustment did take place, it was more muted and took place from a considerably more flexible score. This is consistent with the countries not having been at the heart of the GFC, having less concern about inflation shortfalls and, in some cases, having greater concerns about the longer-term implications of very low interest rates for financial stability.

The influence of confidence in inflation targeting frameworks' credibility and of the GFC is also visible in the growing weight of real economy considerations. As inflation performance improved, by the mid-2000s real economy concerns had already risen substantially (Graph 4.E). And the trend continued after the GFC. The set of central banks with formal real economy objectives (or assigning a higher standing to them) includes several AEs, such as Sweden (1997), the United Kingdom (1997), Switzerland (2004), New Zealand (2019) and Australia (2023), but also some EMEs – Thailand (2020) and Brazil (2021).[15] Moreover, in AEs the degree of ambition also increased markedly, with a greater concerns about *levels or rates of growth or employment* (rather than just volatility), eg in Australia, Canada and the United States (Graph 4.F). This is less the case for EMEs.

The evolution of the weight of financial stability follows a broadly similar pattern to that of the real economy. In this case, however, the upward trend and apparent impact of the GFC is more muted overall. Formal financial stability objectives are relatively common in Asia (eg Indonesia, Korea, the Philippines and Thailand), but only Indonesia added it post-GFC. The weight on financial stability among Asian central banks may reflect the experience with the Asian financial crisis in the mid-1990s. Some adjustments also included clauses explicitly mentioning the "leaning against financial imbalances" option (eg Thailand, joining Korea).

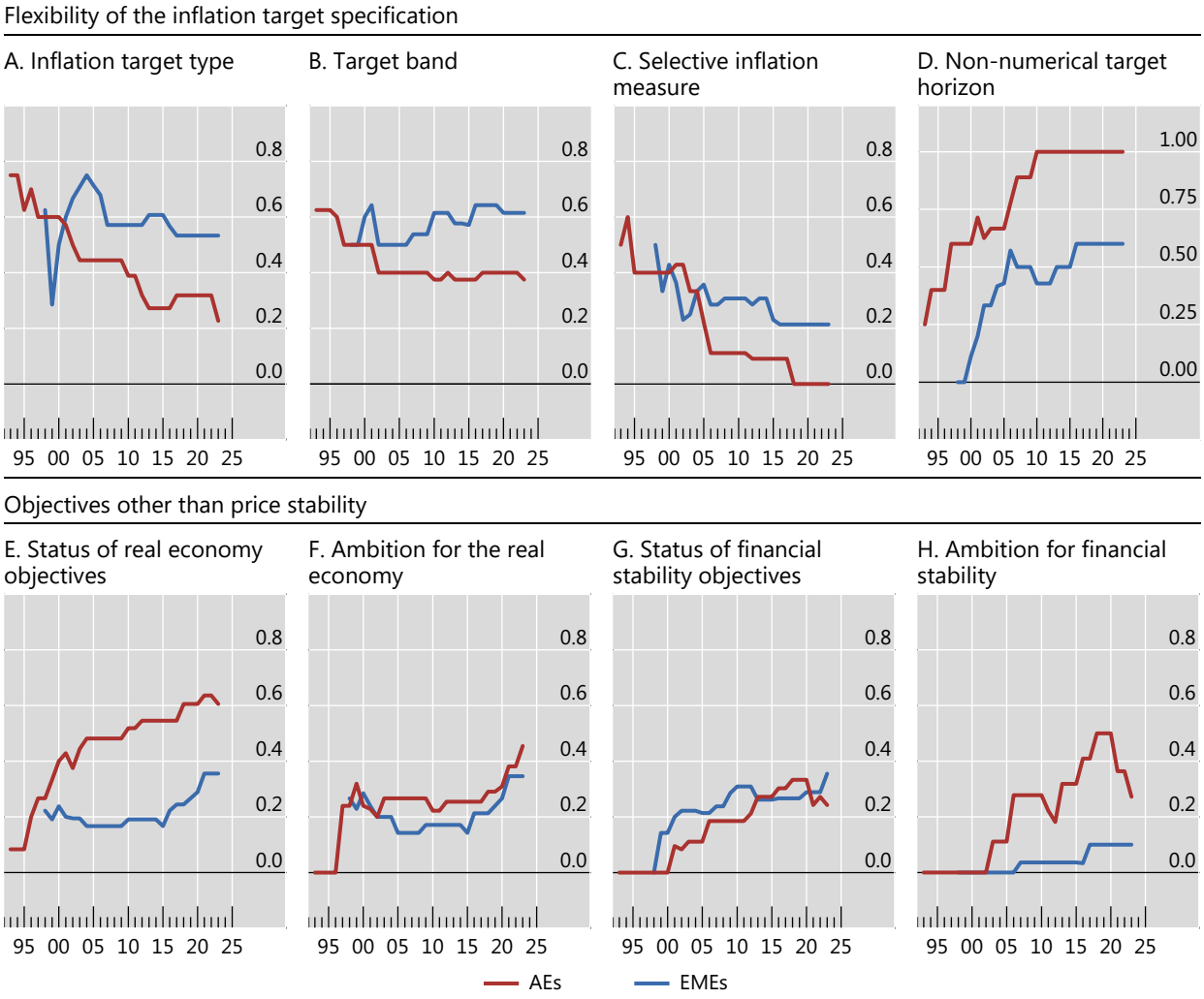
[13] The switch away from selective price measures might also have been relatively inconsequential, since in practice decision-making often puts significant weight on core inflation.

[14] See eg the 2023 review of the Reserve Bank of Australia.

[15] In 2023, however, upon the election of a new (conservative) government, the Reserve Bank of New Zealand lost the dual mandate it had been given in 2019 by the previous (Labour) government.

Flexibility of the inflation targeting framework

Flexibility score for each framework component, average of AE and EME central banks[1] Graph 4



[1] The flexibility score ranges from 0 (least flexible) to 1 (most flexible); the series begin when each group includes at least four central banks.

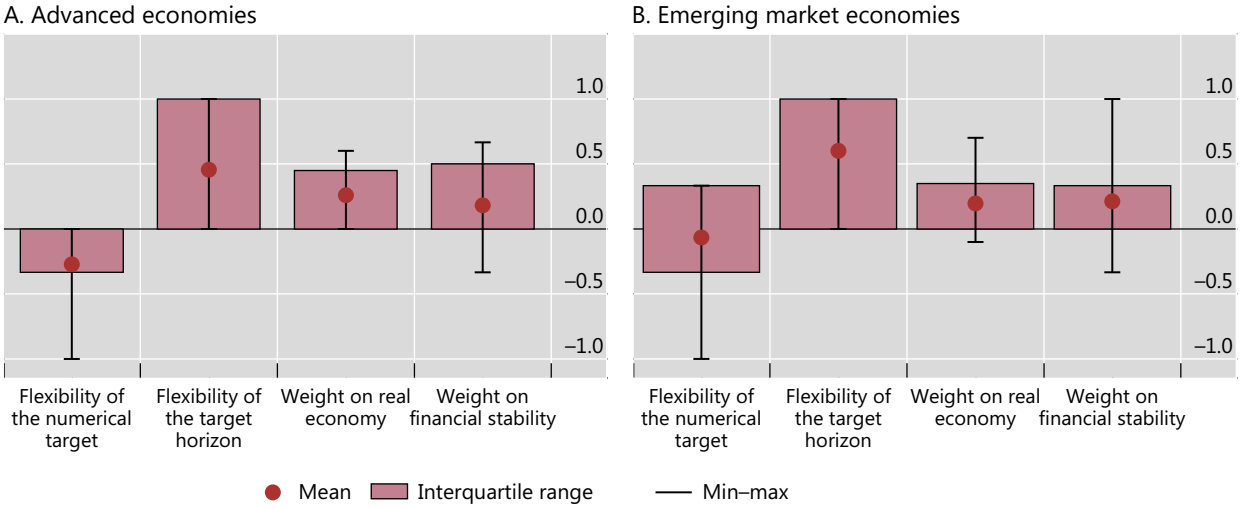
Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

In AEs, no central bank in our sample took on a formal financial stability objective *for monetary policy* after the GFC. Instead, almost all AE central banks added financial stability "clauses" to their strategy statements. Pre-GFC, only Canada and Sweden had adopted such clauses (both in 2006), allowing for leaning against financial imbalances in both cases. In the mid-2010s, clauses spread to eg New Zealand, Norway and the United Kingdom. That said, such clauses lost bite as macroprudential instruments gained ground and became a key tool to fulfil central banks' growing financial stability responsibilities. In Australia, while such a clause was added in 2016, it was removed in 2023 following the Reserve Bank of Australia review.[16] Similarly, monetary policy in Iceland no longer has a financial stability mandate since 2022, perhaps reflecting in part the creation of a separate Financial Stability Committee two

[16] After the review, the joint agreement between the Australian government and the Reserve Bank of Australia still featured a section on financial stability objectives for the central bank, but financial stability was no longer mentioned in the monetary policy section of the agreement.

Changes in flexibility since adoption of inflation targeting

Flexibility score, net changes[1] Graph 5



[1] Changes based on the difference between 2023 and the first available year after adopting inflation targeting. Negative (positive) values indicate a change towards less (more) flexibility.

Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

years earlier. This ebbing of financial stability concerns is visible in a decline in AE financial stability scores in the last part of the sample (Graphs 4.G and 4.H).

Conclusion

Inflation targeting has become the favoured global monetary framework and has proved remarkably durable (Rose (2020)). This study has documented a less well known fact. Under the surface, such frameworks' flexibility has evolved significantly. On the one hand, the explicit weight on objectives other than inflation – real economy objectives such as output and employment and, to a lesser extent, financial stability – has grown. On the other hand, the pursuit of those objectives has been facilitated through greater flexibility of the horizon over which the target is to be achieved even as the target itself has become less flexible. These developments, which are typically more marked among AEs, appear to reflect primarily a mix of considerations: greater confidence in the credibility of the frameworks; what, until recently, has been a benign inflation environment; and the impact of the GFC.

The adaptability of the inflation targeting framework has no doubt been one factor behind its durability. The changes have increased the regime's acceptability. Given past experience, it will be especially interesting to see how the recent surprising surge in inflation will influence the next adjustments. Forthcoming reviews offer a valuable opportunity to further refine the framework.[17]

The analysis of this study has been purely positive, not normative. The objective has simply been to document the evolution of the flexibility of the framework, not to

[17] The Federal Reserve and ECB are conducting monetary policy framework reviews in 2025.

assess the validity of the changes and their impact on the effectiveness of the regime.[18] At the same time, the analysis can inform such an evaluation by providing a systematic cross-country treatment. With that goal in mind, the indicators underlying the study are being made available on the BIS website.

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[18] For two such recent assessments, see eg BIS (2024) and Borio (2024).

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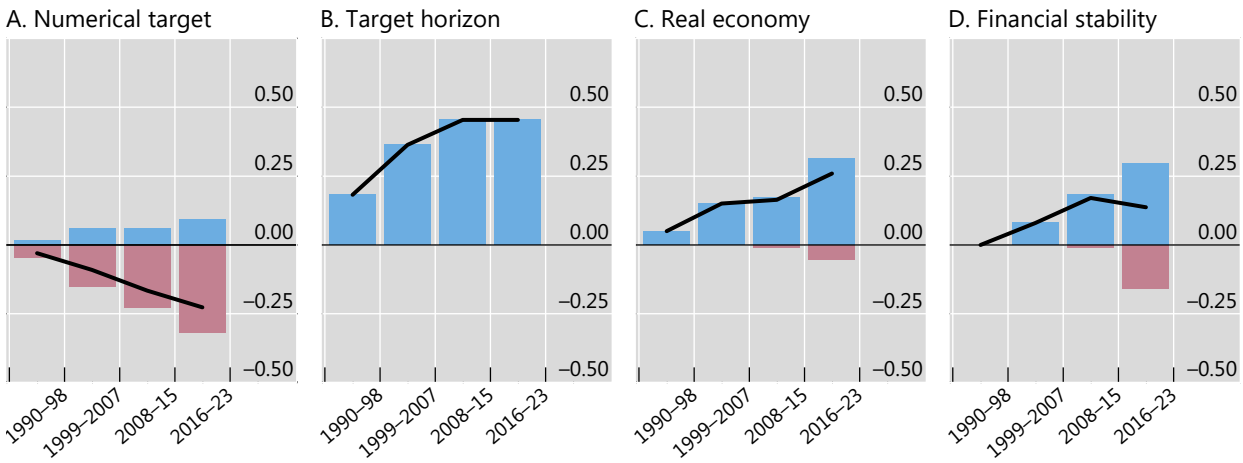
Annex A

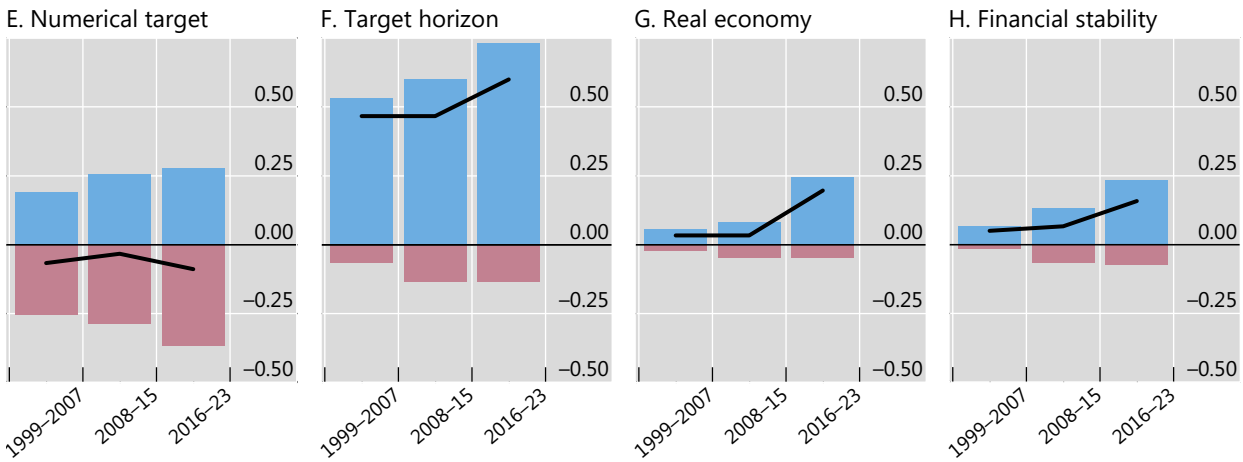
Cumulative changes in inflation targeting flexibility: subperiods

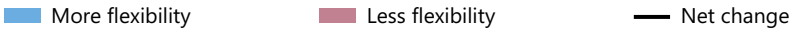
Flexibility scores, gross and net changes[1] Graph A.1

Advanced economies



Emerging market economies





[1] Cumulative changes in the value of the core indicators that increase flexibility (blue bars) and reduce it (red bars), divided by the number of central banks in the sample period.

Source: Authors' calculations based on central bank or government reports and statements (see Box A and Annex C).

Annex B: Changes in monetary policy frameworks: what, who and when

Whether and how changes to frameworks occur depends on the institutional context and the specific adjustment.

Objectives for monetary policy are often enshrined in law (or more rarely in constitution or treaty). Therefore, changing them is generally up to government or parliament. For the strategy (ie the operationalisation of the objectives), there are two main cases (first two rows of Table B.1). In the first group of jurisdictions, the central bank sets the strategy independently and can therefore take the initiative to make changes on its own. This was the case, for instance, of the recent changes to the strategies of the Federal Reserve (2020) and ECB (2021).

In the second group, the government is involved in setting key aspects of the strategy. Therefore, adjustments are initiated by the central bank alone or together with the government depending on the aspect in question. In Australia, Canada, Iceland and New Zealand, the government and central bank sign a joint agreement covering the numerical inflation target and other aspects (eg trade-offs between objectives). In the United Kingdom, the government sets the strategy independently. Among EMEs, when the government is involved, it typically focuses on setting the numerical inflation target (alone or jointly with the central bank).

Processes to set monetary policy strategy[1] Table B.1

Central bank sets strategy independently	AEs	5	CH, EA, JP, SE, US
	EMEs	7	CL, CO, CZ, HU, KR, MX, PE
Government is involved in setting the inflation target (and potentially other aspects of the strategy)	AEs	6	AU, CA, GB,[2] IS, NZ, NO
	EMEs	8	BR, IN, ID, IL, PH, RO, TH, ZA
Periodic public framework review	AEs	5	**AU**, CA, **EA**, **NZ**, **US**
	EMEs	0	

Underlined codes indicate jurisdictions where objectives are enshrined in constitution or treaty. Central banks in **red** have changed to periodic reviews during the past five years. Sample: 26 central banks with inflation targeting or closely related frameworks.

[1] This table only considers aspects of frameworks not set in law; this typically excludes objectives. [2] The Bank of England's Monetary Policy Committee's remit is renewed by the government, generally near the annual budget announcement; in 2013, the renewal was exceptionally backed by a full-fledged review.

Source: Authors' elaboration.

The frequency and incidence of changes also differ. Since changing objectives requires a parliamentary process, this happens relatively infrequently on an ad hoc basis. The strategy can potentially change more frequently and regularly. Recently, the Reserve Bank of Australia, ECB, Reserve Bank of New Zealand and Federal Reserve have announced the intention to review their strategy every five years. This follows the Canadian practice since 1998.[19] Other central banks have occasionally reviewed their strategy on an ad hoc basis (eg those of Chile, Japan, Norway, Switzerland and Thailand). Yet another case is for the government to set the inflation target on a

[19] Before then, the Reserve Bank of Australia and Reserve Bank of New Zealand renegotiations of the agreement typically coincided with new governments or Governor tenures.

regular basis – eg every year for Brazil, and every three years for Korea – typically without changing other aspects of the strategy.

The approach to conducting reviews also differs widely. In AEs, it has become commonplace for central banks and/or governments to conduct public framework reviews. These can cover a range of aspects, including objectives and/or the strategy. It is also frequent for reviews to be led by external experts, typically academics or ex-central bankers, especially when the government commissions the review. In EMEs, public reviews led by experts are rare (Chile and Thailand are two exceptions). In most cases, target changes happen without reviews.

Annex C: Data notes and sources

The data are collected manually from publicly available sources. Table C.1 lists the official sources used. Whenever available, we use the English language version of the source material. Central banks sometimes specify that English language material does not constitute official publications. In a handful of cases, we have used online tools to translate original language sources.

The codification of source material reflects the authors' judgment only and is done on a best efforts basis. Some codification choices are worth highlighting, even if they concern only a handful of observations.

When source material is unavailable for a given jurisdiction and year (or for a specific framework feature), we assume that the latest available source remains valid.

In a few cases, the central bank has both a short-term and a medium-term inflation target. We consider only the former. In terms of escape clauses, we only consider instances when specific items are explicitly excluded from the price measure targeted, or when the statement explicitly says that the central bank does not respond to some specific shocks. We ignore cases when the strategy statement merely specifies that the central bank responds *differently* to some shocks, or that it expects inflation to deviate from target in the short term.

In a few cases, there is a discrepancy between the horizon for the inflation target set out in the strategy statement and the formal announcement of the target (typically made by the government alone or jointly with the central bank). In such cases we consider the information in the strategy statement.

For the target price measure, for simplicity we also consider that the central bank targets CPI inflation when it uses a measure that strips out the direct effect of changes in policy rates.

We do not consider that the central bank has an objective for the real economy or financial stability when its strategy statement merely specifies that price stability is a precondition or key factor for eg growth or financial stability (or the reverse). We do not consider as a financial stability objective instances of objectives for eg development of the financial system or the functioning of the payment system. Even when the statement mentions a financial stability objective, it is not always clear to what extent it applies to monetary policy, as opposed to being only an institution-wide objective. In such cases, absent a clear indication that financial stability is relevant to monetary policy, we consider that the central bank has a consideration for financial stability rather than an objective.

In a few cases, the formulation of the central bank's objective for the real economy or financial stability differs from the formulation in law. In these cases, we use the strategy statement, since it is typically timelier. In the few cases of objectives to support economic growth, we give the same score as for objectives to dampen economic volatility. When the objective is for full potential growth, we give the same score as objectives for full employment.

When there are more than two options for one framework feature, we set scores so that there is an equal increment between each option. One exception is for the ambition for the real economy (B1.2). The highest-scoring option for that feature is an objective to miminise *shortfalls* from full employment. The second highest ranking option is to achieve full employment. These two options would differ when employment is above estimated full employment, but not when it is below. Therefore,

we set the increment between these two options to half of the increment between the other options for that feature.

Some choices about the sample are also worth discussing. In general, a central bank is included in the sample from the year when it adopts inflation targeting. In a few cases, however, there are missing data for some years after adoption. For instance, the Reserve Bank of Australia considers that it adopted inflation targeting "in the early 1990s". Until 1996, however, the inflation target was only set out in vague terms in the Governor's speeches. Therefore, Australia only enters the data set in 1996. The euro area counts as one observation. We include the ECB from 2003, when it clarified that it did not tolerate deflation.

Data sources

Table C.1

	Adoption	Source
Australia	Early 1990s	Statements on the Conduct of Monetary Policy (from 1996).
Brazil	1999	• From 2016: introduction to end-of-year Central Bank of Brazil Inflation Reports • 1999–2015: annual inflation target decrees, available on Central Bank of Brazil website
Canada	1991	Agreements on the Inflation-Control Target between Bank of Canada and the Minister of Finance
Chile	1990	• From 2020: "Chile's monetary policy within an inflation-targeting framework" • 2007–20: "La política monetaria del Banco Central de Chile en el marco de metas de inflación" • 2000–06: "Monetary policy of the Central Bank of Chile: objectives and transmission" • 1991–99: "La política monetaria en Chile"; "Una década de metas de inflación en Chile: desarollos, lecciones y desafios"
Colombia	1999	• From 2006: introduction to Monetary Policy Reports • From 1999: Political Constitution of Colombia (1991), Article 373 and Decision C-481/99 of the Constitutional Court
Czechia	1998	• From 2010: "The CNB's new inflation target and changes in monetary policy" • 2004–10: "The CNB's inflation target from January 2006" • 2002–05: "The setting of the inflation target for 2002–2005" • 1999–2001: Czech National Bank Annual Report.
Euro area	2003	• From 2021: "The ECB's monetary policy strategy statement" • 2003–20: "The outcome of the ECB's evaluation of its monetary policy strategy"
Hungary	2001	• Introduction to end-of-year inflation reports • "Inflation targeting" (MNB.hu) • "The inflation targeting system in Hungary"
Iceland	2001	• From 2022: Monetary Policy Strategy • 2001–21: "Declaration on inflation target and a change in the exchange rate policy"
Indonesia	2005	• From 2016: introduction to end-of-year Bank Indonesia Monetary Policy Report • Regulation of the Minister of Finance No 124/PMK.010/2017

		• 2015–18: Decree of the Minister of Finance No 93/PMK.011/2014 • 2012–14: Regulation of the Minister of Finance of the Republic of Indonesia Number 66/MPK.011/2012 • 2010–12: Decree of the Minister of Finance No 143/PMK.011/2010. • 2008–09: Decree of the Minister of Finance No 1/KMK.011/2008 • 2005–07: Decree of the Minister of Finance No 399/KMK.011/2004 • "Towards inflation targeting: the case of Indonesia"
Israel	1997	• "Revisiting the inflation target" • Bank of Israel Annual Reports • 1997–98: Appendix to Inflation Report
Japan	2012	• From 2013: "The 'price stability target' under the Framework for the Conduct of Monetary Policy" • 2012: "The price stability goal in the medium to long term"
Korea	1999	• From 2016: introduction to Monetary Policy Reports • "Inflation Target for 2019 Onward" • "Inflation Target for 2016 Onward" • "Inflation Target for 2013 Onward" • "Inflation Target for 2010 Onward" • "Inflation Target for the Years 2007–09" • "Inflation Target for 2004–06" • "Inflation Target and Monetary Policy for 2003" • "The Inflation Target and Monetary Policy for 2002" • "The Inflation Target and Monetary Policy for 2001"
Mexico	1999	Annual Bank of Mexico Monetary Policy Programme
Norway	2002	• From 2003: introduction to Central Bank of Norway's Monetary Policy Report • 2021–22: Central Bank of Norway's monetary policy strategy statement
New Zealand	1990	Policy Targets Agreements
Peru	2002	Introduction to end-of-year Central Reserve Bank of Peru Inflation Reports
Philippines	2002	Introduction to end-of-year Bangko Sentral ng Pilipinas Monetary Policy Reports
Romania	2005	• 2005: National Bank of Romania Annual Report • "Direct inflation targeting: a new monetary policy strategy for Romania"
South Africa	2000	• From 2012: preface to end-of-year Monetary Policy Reviews • 2010: Minister of Finance letter to the South African Reserve Bank • 2000: South African Reserve Bank inflation target announcement; Minister of Finance budget speech
Sweden	1993	• From 2006: introduction to inflation report • 2007–10: Monetary policy in Sweden • 1999–2006: "The Riksbank's inflation target – clarification and appraisal" • 1993–98: "Monetary Policy in Sweden after the end of Bretton Woods"
Switzerland	2000	Swiss National Bank Annual Reports ("monetary policy concept" section)

Thailand	2001	Introduction to Bank of Thailand Monetary Policy Reports
United Kingdom	1992	• From 1997: annual Remit for the Monetary Policy Committee • 1995–1996: Chancellor's Mansion House speech • 1994: Chancellor's Mansion House Speech • 1993: Chancellor's Mansion House Speech • 1992: Chancellor letter from 8th October (kindly provided by Ryland Thomas)
United States	2012	Statements on Longer-Run Goals and Monetary Policy Strategy

Source: Authors' elaboration.