

Assessing Inflation Targeting¹

The Context

Over the past three and a half decades since the formal adoption of inflation targeting (IT), it has proliferated across continents, regardless of the position of host jurisdictions in the developmental ladder. By the turn of this century, it has been increasingly embraced by emerging market economies (EMEs) so much so that they now outnumber advanced economies (AEs) as practitioners. A unique feature of IT is its operationalisation even before the development of a formal theory². The journey of IT has been tumultuous, navigating as it has the Great Moderation and ‘once in a century’ shocks such as the global financial crisis (GFC), the COVID-19 pandemic, and persisting geopolitical conflicts that have had a direct bearing on both inflation’s evolution and on financial conditions. Yet, there is no evidence of any major country abandoning it³. On the other hand, central banks have drawn lessons from these humungous challenges and innovated and refined their policy frameworks. The endogenous evolution of IT has rendered it the longest surviving monetary policy framework in modern times.

Three pillars of the framework – flexibility; transparency and, therefore, accountability; and credibility – have enabled IT to stand the test of time. Empirical evidence suggests that the post-pandemic price shocks have actually had relatively

¹ Address delivered by Michael Debabrata Patra, Deputy Governor, Reserve Bank of India (RBI) at the High Level Conference “Central Banking at Crossroads” organised by the Reserve Bank of India as apart of commemoration of its 90th year on October 14, 2024 at New Delhi, India. Valuable comments received from Binod B Bhoi, Indranil Bhattacharya, Soumasree Tiwari, and editorial help from Vineet Kumar Srivastava are gratefully acknowledged.

² King, Mervyn A. (2024). Inflation Targets: Practice Ahead of Theory. *NBER Working Paper No. 32594*, June.

³ Argentina moved out of IT in 2018, and it is under an IMF program currently with an ambitious stabilization plan.

short-lived effects in comparison with the persistence of the price shocks of the 1970s on the wider acceptance that monetary policy will do whatever it takes⁴. The effectiveness of inflation targeting is also found to be underpinned by its institutional quality,⁵ reinforcing pre-pandemic evidence pointing to IT being a better absorber of shocks than other regimes.⁶ The taming of the post-pandemic surge in inflation down to its last lap provides further validation of the framework. Everywhere, long-term inflation expectations remain broadly anchored⁷ in spite of heightened uncertainty.⁸

II. What the Reviews Revealed

Unlike other monetary policy regimes, periodic reviews have been an integral part of the IT framework, and have, in fact, been hard coded into legislative mandates. While there have been notable operational similarities in target setting, policy communication and performance assessment within subtle adaptations to country specific requirements, there is variation in the way IT frameworks are reviewed.⁹ The latest reviews of IT frameworks in several countries provide interesting insights about the future of IT.

The key motivations for these framework reviews were (i) the decline in the neutral interest rate and the higher risk of hitting the zero lower bound; (ii) the lowering of

⁴ Bernanke, B. S. and Blanchard, O. (2024). An Analysis of Pandemic-Era Inflation in 11 Economies. *Hutchins Center Working Paper #91*, May.

⁵ Milas, C., Dergiades, T., Panagiotidis, T., and Papapanagiotou, G. (2024). An Assessment of Inflation Targeting. *Quarterly Review of Economics and Finance* 97, 101897.

⁶ Fratzscher, M., Grosse-Steffen, C. and Rieth, M. (2020). Inflation Targeting as a Shock Absorber. *Journal of International Economics* 123, 103308.

⁷ Schnabel, I. (2024). The Future of Inflation (Forecast) Targeting. Keynote speech at the thirteenth conference organised by the International Research Forum on Monetary Policy, "Monetary Policy Challenges during Uncertain Times", at the Federal Reserve Board, Washington, D.C. April 17.

⁸ Lagarde, C. (2022). Monetary Policy in an Uncertain World. Speech delivered at "The ECB and Its Watchers XXII" conference, Frankfurt am Main, March 17.

⁹ Wadsworth, A. (2017). An International Comparison of Inflation Targeting Frameworks. *Reserve Bank of New Zealand Bulletin*, Vol.80, No.8, August.

inflation expectations which further constrained policy space; and (iii) the flattening of the Phillips Curve giving recoveries ‘more room to run’.¹⁰

Overall, the reviews have reaffirmed faith in the broad framework of IT, but with some refinements. Common outcomes include (i) specification of the target range in terms of headline inflation with a focus on mid-points; (ii) re-emphasising accountability criteria for meeting the target over a period rather than at every point in time; (iii) specifying the periodicity of reviews; and (iv) assessing other measures of inflation - including core - for policy deliberations but not for specifying the target.

Distinctive outcomes include (i) the US Federal Open Market Committee (FOMC) defining the target in terms of average inflation of 2 per cent over time; (ii) the ECB changing the target from "below but close to 2 per cent" to “ 2 per cent” as a reference point to ensure that the medium-term inflation rate neither exceeded nor remained below this symmetric threshold¹¹; (iii) New Zealand including maximum sustainable employment as an additional objective effective from 2019 but reverting to solely targeting price stability in December 2023; (iv) Japan exiting its negative interest rate policy and discontinuing quantitative and qualitative monetary easing (QQE) along with yield curve control (YCC) in March 2024¹²; and (vi) Thailand, Brazil and Indonesia lowering targets/target ranges.

What the reviews did not reveal is also interesting because of more recent developments. For instance, even while formal IT frameworks enabled central banks

¹⁰ Adrian, T. (2021). Review of Monetary Policy Frameworks. Remarks at Central Banking Magazine’s, Reserve Management Americas Workshop, March 16.

¹¹ Benigno P., Canofari, P., Dibartolomeo, G. and Messori, M. (2021). The Implementation and Rationale of the ECB's New Inflation Target. *Monetary Dialogue Papers*, European Parliament, November.

¹² Kazuo, U. (2024). On the Recent Changes in the Bank of Japan's Monetary Policy Framework. Remarks at the Peterson Institute for International Economics, April 19.

to forcefully respond to both high and low inflation, there is no clear assessment of the manner and extent to which financial stability considerations should be accounted for in the pursuit of price stability. In the event, the excesses of ‘too low for too long’ and also of ‘higher for longer’ have been exposed and the absence of a settled position makes policy responses vulnerable to banking crises of the March 2023 type, the unwinding of carry trade as in August 2024 and recession fears on a single data release on September 3, 2024 which left data dependent IT practising central banks awash in an ocean of uncertainty due to sudden large revisions in market expectations. Second, the reviews are silent on the effects of putting central bank balance sheets on the line in the conduct of unconventional monetary policy. Consequently, the difficulties encountered in too prolonged a normalisation and in the incurring of financial losses by central banks will stare at the credibility of the independent conduct of IT-based monetary policy. Third, communication – a much feted aspect of IT – has run into asymmetry complications underneath the radar of the reviews. What seemed fashionable and comforting in the context of easing monetary policy appears confusing and even blasé on the way up.

III. Innovations

The post-pandemic experience has been similar in some respects across inflation targeting AEs and EMEs. The fight against the deep contraction and financial stability risks brought on by the pandemic triggered unprecedentedly forceful responses from both. Interest rates were taken down to historical lows. Balance sheets of central banks were expanded to distended dimensions; and communication was reimagined in an effort to restore petrified confidence. Likewise, the global outbreak of inflation following the war in Ukraine drew forth from both among the most aggressive tightening of monetary policy in the history of each once it was realised that the inflation

was pernicious and there to stay. The mornings after were, however, somewhat different - while AEs faced banking and sovereign debt problems, EMEs had to deal with spillovers from AEs and wild swings in financial asset prices, especially exchange rates. These discrete experiences have brought forth innovations in the practice of inflation targeting that have been conditioned by distinct and different realities.

In the case of AEs, an attractive innovation is the concept of averaging inflation targets propounded by the US Fed. Scarred by the severe constriction of policy space at the zero interest rate bound or going even lower, its new make-up strategy allows the Fed to let inflation run moderately above target following a period when it has persistently fallen below the target. The promise of higher inflation in the future lowers real interest rates even when the policy rate is pinned at zero, thus boosting output and inflation today.

In the case of EMEs, the adoption of IT has undoubtedly strengthened their monetary policy frameworks as evident in the greater external and financial stability they now enjoy than in past decades in spite of amplified spillovers from AEs and larger destabilising effects. This bonus has largely accrued from following assignment rules committing monetary policy to price stability, while dealing with capital flows and exchange rate volatility with foreign exchange (FX) interventions and macro prudential measures. FX Interventions, supported by accumulation of foreign exchange reserves, have squelched volatility by leaning against the tsunamis unleashed by AE monetary policies. In a world in which a global financial safety net is non-existent or inadequate, spillovers are global but financial stability is national. In this environment, the benefits of this risk minimisation strategy overwhelmingly outweigh costs of holding large reserves.

Macro prudential policies are designed to address side effects and fallouts that slip through the cracks of FX interventions. If they are not fully sterilised, fluctuations in capital flows and exchange rates can cause overheated credit expansions, rising leverage and amplified financial cycles. Macro prudential measures temper the build-up of these financial imbalances, enhance resilience in the face of rising stress, dampen oscillations of financial cycles and reduce the likelihood of financial crises.

Both FX interventions and macro prudential policies are intended as complementary tools that expand the room for manoeuvre for inflation targeting monetary policy. The experience of EMEs illustrates how forex interventions and the deployment of macroprudential tools can help improve the trade-off between price and financial stability¹³. In the context of AE and EME inflation targeters, therefore, different strokes for different folks.

IV. IT – The Indian Experience

India was a relatively late entrant to the IT club¹⁴; this enabled cherry picking the best of country experiences. India's flexible inflation targeting (FIT) framework is centred around an inflation target set at 4 per cent with a tolerance band of +/- 2 per cent around it. The target is medium-term in nature, initially set for a five-year period (2016-21) and renewed by the government for another five years (2021-26). The 'F' in India's FIT consists of (i) a mandate that accords primacy to price stability while being cognisant of growth; (ii) an inflation target defined in averages rather than as a point; (iii) achievement of the target over a period of time rather than continuously; (iv) a tolerance band to accommodate measurement issues, forecast errors and supply

¹³ BIS (2024). Monetary Policy in the 21st Century: Lessons Learned and Challenges Ahead. Annual Economic Report, June 30.

¹⁴ The framework was formally adopted in 2016, but the pre-conditions and glidepath were put in place from February 2015.

shocks; and (v) failure to achieve the target being defined as three consecutive quarters of deviation of inflation from the tolerance band, rather than every deviation from the target¹⁵.

During the pre-pandemic period upto end-2019, inflation was low and stable, averaging around 4 per cent. With the outbreak of the pandemic and associated lockdowns, inflation breached the upper tolerance band in many months during 2020–21 and 2021-22. Following the Russia-Ukraine conflict, inflation again veered away from its target under the impact of multiple and overlapping food and energy shocks. By April 2022, it reached a peak of 7.8 per cent. The monetary policy response was front-loaded with a cumulative hike of 250 bps during May 2022-February 2023. In July and August 2024, inflation has fallen below the target. It is projected to average 4.5 per cent in 2024-25 before aligning with the target on a durable basis in 2025-26.

The Indian experience is unique in view of the incidence of repetitive shocks to food and fuel prices, which challenged the conduct of monetary policy. In India, price stability is a shared responsibility under which the government sets the target, and the central bank achieves it. This allows monetary-fiscal coordination without posing risks to financial stability, fiscal consolidation or growth¹⁶ - perhaps a template for countries vulnerable to inflationary pressures emanating from supply shocks.

V. New Vistas

In the years ahead, the conduct of IT-based monetary policy may face even greater challenges. Central banks face an existential threat to their central mandates from

¹⁵ [Patra, M. D. \(2021\): "Monetary Policy: Trial by Pandemic," *RBI Bulletin*, October.](#)

¹⁶ Patra, M.D., and Bhoi, B. B (2024). Quelling the Post-pandemic Inflation Surge: The Indian Experience. Chapter 10 in the book *Monetary Policy Responses to the Post-Pandemic Inflation* edited by Bill English, Kristin Forbes and Ángel Ubide, Centre for Economic and Policy Research (CEPR), February.

climate change through supply shocks such as food and energy shortages and through a decline in productive capacity which can translate to inflation volatility. Demand shocks can also arise due to the loss of wealth of firms and households on account of frequent natural disasters. Physical and transition risks can affect the balance sheets of financial institutions and banks, limiting the flow of credit to the real economy. Climate induced uncertainty can make households save more for precautionary purposes, bringing down the real equilibrium interest rate. There are also several channels through which climate change can affect monetary transmission. For instance, depreciation pressures on currencies of countries frequently affected by climate disasters can cause financial instability, higher import costs as well as negative terms of trade all of which have implications for the mandate of inflation targeting central banks. Already, several central banks, including the RBI, have started taking steps to put in place guardrails, including incentives for bank lending for green energy sources; measuring and managing climate-related risks, including through stress testing; developing appropriate ecosystems for green bonds, collateral policies and green deposits; funds-supplying operations to support financing for climate change responses; and differentiated reserve requirements. The consensus is hence coalescing to the position that central banks are uniquely placed to address climate change. The challenge is to incorporate it into inflation targeting frameworks.

Innovations in payment systems, fintech, and central bank digital currencies can also change the nature of policy trade-offs facing IT in the future.¹⁷ Digitalisation can directly lower inflation rates through a decline in the prices of information and

¹⁷ Allen, F., Kim, J. H. and Walther, A. (2024). Inflation Targeting and Financial Stability. Paper presented at the conference on “The Quest for Nominal Stability: Lessons from Three Decades with Inflation Targeting” held at the Sveriges Riksbank, May 23-24.

communication technology (ICT)-related goods. Digital technologies can also influence inflation indirectly through changes in firms' price-setting behaviour and market dynamics, with competition enabled by e-commerce. Dynamic pricing of goods and services becomes possible, making prices more responsive to economic changes by reducing menu costs, improving access to information and enhancing price update flexibility¹⁸. By reducing price stickiness, these developments can potentially make the Phillips curve steeper, enhancing the efficacy of monetary policy in securing price stability¹⁹. On the other hand, algorithmic pricing strategies in the digital realm may result in prices settling above competitive levels. Additionally, the large initial investment in digital technologies, coupled with lower scaling costs, can lead to a higher level of market concentration, higher mark-ups and profit margins, and consequent inflation pressures.

Digitalisation can improve access to financial services and enhance financial inclusion, thereby improving the transmission of interest rate-based monetary policy²⁰. Financial digitalisation tends to amplify the effects of monetary policy by loosening credit constraints. On the other hand, monetary policy transmission could be dampened if

¹⁸ Glocker, C., and Piribauer, P. (2021). Digitalization, Retail Trade and Monetary Policy. *Journal of International Money and Finance*, 112, 102340.

¹⁹ Ari, M. A., Garcia-Macia, M. D., and Mishra, S. (2023). Has the Phillips Curve Become Steeper? *IMF Working Paper* No. 2023/100; Friedrich, C., and Selcuk, P. (2022). The Impact of Globalization and Digitalization on the Phillips Curve. *Bank of Canada Staff Working Paper* No. 2022-7.

²⁰ [Patra, M.D. \(2021\). Financial Inclusion Empowers Monetary Policy. Address Delivered in the Project on Financial Inclusion, a Joint Initiative by the IIMA, IRMA and CIIE organised by the IIM, Ahmedabad, December 24.](#)

digitalisation leads to shifting of credit supply from banks to less-regulated/unregulated nonbanks²¹ or by offsetting reductions in bank deposits.²²

To conclude,

While formulating monetary policy, it is considered good housekeeping to evaluate the balance of risks. From this perspective, IT policy frameworks of the future need to be more robust, realistic and nimble, while exploiting synergies with prudential, fiscal and structural policies²³ and leveraging on technological transformations. Adaptability and flexibility built into the framework would ensure that the central bank would be able to nudge the economy towards desirable societal outcomes. The so-called Darwinian principle of ‘Natural Selection’ is not Darwinian at all. It is actually attributable to Herbert Spencer. In my view, Herbert Spencer best describes the future of IT – the survival of the fittest.

Thank you

²¹ Buchak, G., Matvos, G., Piskorski, T., and Seru, A. (2018). FinTech, Regulatory Arbitrage, and the Rise of Shadow Banks. *Journal of Financial Economics*, 130(3), 453-483; Elliott, D., Meisenzahl, R., Peydró, J.L., and Turner, B. C. (2022). Nonbanks, Banks, and Monetary Policy: US Loan-Level Evidence since the 1990s. *Federal Reserve Bank of Chicago Working Paper*, No. WP 2022-27, June; Chen, K., Ren, J., and Zha, T. (2018). The Nexus of Monetary Policy and Shadow Banking in China. *American Economic Review*, 108(12):3891–3936.

²² Xiao, K. (2020). Monetary Transmission Through Shadow Banks. *The Review of Financial Studies*, 33(6):2379–2420.

²³ BIS (2024), *op. cit.*