

*Central Banking in the 21st Century: Changing Paradigm**

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I am delighted to have been invited by the Nepal Rastra Bank (NRB) to deliver the inaugural Himalaya Shumsher Memorial Lecture. I deem it as a privilege. I place on record my appreciation of the Nepal Rastra Bank for initiating this lecture series in honour of Shri Himalaya Shumsher Rana, the first governor of NRB from 1956 to 1961. He contributed immensely to the development of Nepalese monetary and financial systems. His efforts laid the foundation for many of Nepal's key financial institutions and contributed significantly to the country's economic development. Nepal and India have enjoyed a long standing relationship that goes back into history. It is not just a relationship between the two countries, it is also a close people to people relationship. The Nepal Rastra Bank and the Reserve Bank of India also share a close relationship based on mutual co-operation.

Central banks have traditionally functioned as the guardians of macroeconomic and financial stability. In recent years, central banks were at the forefront protecting their economies and financial systems from the onslaught of multiple global shocks. They were put to ultimate test in this extraordinary period of global turbulence and uncertainties. They had to change gear to revive their COVID-19 pandemic-ravaged economies to waging an all-out war against inflation in quick succession. Many standard central banking theories and practices were debated; and while some survived, others had to adapt to the new realities. As we still transit through this challenging period which is now dominated by geopolitical conflicts and global geoeconomic fragmentation, it would be appropriate

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to examine how central banking has evolved over the years, draw lessons from the past crises, and prepare for the challenges that lie ahead in the 21st century. Today, therefore, I have chosen to speak on "Central Banking in the 21st Century: Changing Paradigm".

I have structured my talk in the following manner. First, I propose to speak on the established paradigm of central banking at the turn of the last century. Thereafter, I would like to describe how this paradigm has evolved, learning from the crisis experiences of the 21st century, followed by brief remarks on the Reserve Bank's approach to policymaking that has helped the Indian economy emerge stronger in the last few years. Finally, I shall attempt to outline some of the challenges that central banks will confront in the 21st century.

The Established Paradigm at the Turn of Last Century

By the end of the 20th century, the theory and practice of central banking had converged to certain core principles. The first of these core principles was that price stability would be the primary responsibility of a central bank. This principle had its origin in the Great Inflation of the 1970s. Subsequently, inflation targeting as a monetary policy framework gained prominence from the early 1990s, both in advanced and emerging market economies (EMEs). The second core principle had its roots in the famous 'rules versus discretion' debate in macroeconomics¹ of the 1970s and 1980s, following which a consensus emerged in favour of rules or constrained discretion in policy making. This was followed by institutional reforms under which inflation targeting got embedded in rule-based policy making with some flexibility. The third core principle was about central bank independence which was considered as critical for achieving the goals of price and economic stability. While the target was given to the central bank by elected representatives, the central

¹ Kydland, F.E. and Prescott, E.C. (1977). "Rules Rather Than Discretion: The Inconsistency of Optimal Plans." *Journal of Political Economy*, 85 (June), 473–92.

bank was free to deploy instruments at its disposal to achieve the given target.² Central bank independence went hand in hand with increased accountability and transparency of the monetary policy decision making process.

Evolving Paradigm of the 21st Century

In the 21st century, the global economy has gone through a global financial crisis (GFC), a global pandemic, a global surge in inflation and geopolitical conflicts with global ramifications. Not too long ago, central banks were fighting deflationary tendencies in the aftermath of GFC by cutting their policy rates to the zero lower bound and implementing a heavy dose of quantitative easing. After the onset of the war in Ukraine, they had to fight against inflation by raising policy rates to historically high levels.

In fact, the eventful first quarter of the 21st century has provided important lessons for central banks, as it brings about quite a few changes in the established paradigm of the 20th century. First, there is now a better recognition of the interconnections between price stability and financial stability. A key lesson from recent experience is the need to avoid looking at price and financial stability in isolation. The linkage from price to financial stability operates in two ways. First, extended periods of low and stable inflation could lull central banks into complacency with regard to regulation and supervision of the financial system as witnessed during the Great Moderation era of 1990s and early 2000s, germinating the seeds of financial instability. Second, periods of high inflation that are addressed by strong monetary policy tightening can jeopardise financial stability if interest rate risks are not adequately factored in. We saw this in March 2023 when a few banks in some advanced economies faced sudden stress situations.

² A whole host of literature developed establishing that macroeconomic performance was superior in countries with more independent central banks (Alesina and Summers, 1993; Cukierman, 1993).

It is evident that measures for promoting financial stability can complement or constrain monetary policy depending upon its usage. Financial stability measures aimed at effective regulation and supervision of banks, non-banking financial companies (NBFCs) and markets can enhance monetary transmission and help price stability. On the other hand, financial stability measures *via* extraordinary monetary expansion, if not corrected in time, can risk price stability. It is, therefore, evident that the relationship between price stability and financial stability runs in both directions and the impact depends upon the policy choices we make.³

Second, the 20th century orthodoxy of central banking was in terms of single objective (price stability) and single instrument (short-term interest rate). Today, central banks have a broader mandate of overall macroeconomic stability which includes price stability, sustained growth and financial stability. Sometimes, the pursuit of price stability could be in conflict with financial stability as experienced recently by some advanced economies when tighter monetary policy raised concerns about the banking system stability. The trade-off between price stability and growth emerges when the pursuit of price stability entails large growth sacrifice. It is, therefore, important, that central banks employ their multiple instruments, *viz.*, monetary policy, macroprudential regulation and micro-prudential supervision in an optimal manner to reduce such trade-offs and achieve better outcomes for the economy.

To best serve all these objectives, central banks have greatly enhanced their toolbox. In addition to conventional policy tools, central banks have an enlarged toolbox of unconventional policy instruments. These include negative interest rates,

³ Das Shaktikanta (2023), 'Price and Financial Stability: Managing Complementarities and Trade-Offs', Plenary Address at the Kautilya Economic Conclave Organised by the Institute of Economic Growth and Ministry of Finance, Government of India, New Delhi; October 20, 2023.

term lending facilities, asset purchase programmes and forward guidance. Central banks also rely on proactive macro-prudential measures to promote systemic stability.

Third, central bank communication has gained prominence as an important policy tool in the 21st century. In older days, central bankers believed that their communication should be “shrouded in mystery”, “say as little as possible” and “say cryptically”.⁴ Those times are gone. Now, managing expectations through effective communication is a vital instrument in the monetary policy toolkit. Forward guidance or the absence of it on the future path of policy interest rates, both state and time based, has evolved as a new feature to deal with expectations. Central banks have learnt to build trust and confidence through social media, official speeches, press releases and public interactions.⁵ Clear and effective communication and transparency have played an important role in the success of the inflation targeting framework.

Fourth, recent experience has underscored the importance of monetary-fiscal coordination for better economic outcomes. During the pandemic, central banks worked in close coordination with governments to deal with the unprecedented crisis. Later, when central banks were battling against multi-decade high inflation, governments took measures on the supply side to ease inflationary pressures. Consequently, the output sacrifice needed to bring down inflation was minimised.

Fifth, the emerging market economies (EMEs) have exhibited greater resilience unlike previous episodes. Notably, all traditional drivers of EME crises of the 20th century were present in the last few

years,⁶ but the EMEs have probably learnt from their past experience and played it well this time. While the resilience of EMEs will be tested in the face of new challenges cropping up frequently, some lessons can be drawn as central banks prepare for rest of the 21st century. The foremost lesson is that strengthening one's fundamentals is the best buffer against global spill overs in today's uncertain world. Fundamentals would include commitment to an inflation target, maintaining buffers in the form of reserves, and following a prudent and forward looking approach in financial sector policies. This approach, together with prudence in fiscal management, will go a long way in enhancing the resilience of EMEs.

The Indian Context

Let me now turn to the Indian context. I wish to highlight some aspects of the Reserve Bank's approach that have worked well for us. We have not only managed to shield the Indian economy from multiple shocks in the last few years but have also enabled it to emerge stronger from the crisis. The Indian economy today demonstrates vastly improved macroeconomic fundamentals and buffers.

Unlike many central banks which are narrowly focused on price stability using monetary policy, the Reserve Bank has a wider canvas of functions. It is not just responsible for maintaining price stability, but also has the larger responsibility of maintaining financial stability as the regulator and supervisor of banks and other financial sector entities, financial markets and payment systems.⁷ This helps us to take a holistic view of the economy, appreciate the synergy

⁴ Shaktikanta Das (2023), “The Art of Monetary Policy Making: The Indian Context” Speech by Governor, Reserve Bank of India at Delhi School of Economics (DSE) Diamond Jubilee Distinguished Lecture, September 5, 2023.

⁵ Central Banking in the 21st Century – A crisis of accountability? European journal of political Economy, 74, 2022.

⁶ Some of these drivers include global slowdown, high inflation and concomitant high interest rates in AEs, strong dollar, bank failures in AEs and associated contagion risk, high commodity prices, tapering of quantitative easing and associated capital outflows from EMEs.

⁷ The preamble to the RBI Act 1934 describes RBI's main functions as: “...to regulate the issue of Bank notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage; to have a modern monetary policy framework to meet the challenge of an increasingly complex economy, to maintain price stability while keeping in mind the objective of growth.”

and trade-offs involved in various objectives, and act appropriately using multiple instruments at our disposal.

The Flexible Inflation Targeting (FIT) framework which got embedded into the law in 2016, established the primacy of price stability among the objectives of monetary policy, but not unconditionally. It defined the objective as maintaining price stability, while keeping in mind the objective of growth. The FIT framework retained the essence of the earlier multiple indicator approach without any ambiguity about the hierarchy of objectives. FIT provides flexibility to support growth if the situation so demands. Financial stability which is a pre-condition for price stability and sustained growth is thus implicitly embedded as part of the broader mandate of the Reserve Bank. It is this approach which has helped us to effectively deal with the multiple challenges in the recent period and address issues of anchoring price stability, supporting growth and maintaining financial stability. Details of the specific measures undertaken by the Reserve Bank are given in a footnote⁸.

⁸ When the COVID-19 pandemic struck, the Reserve Bank reduced the policy rate sizeably by 115 bps in a span of two months (March-May 2020); however, we refrained from being ultra-accommodative by not reducing the policy repo rate below our inflation target of 4 per cent. In tandem, financial conditions were eased substantially through liquidity augmenting measures amounting to ₹17.2 lakh crore (equivalent to 8.7 per cent of GDP of 2021-22). All these measures were nuanced, against good collaterals, with banks as counterparties and preferably with sunset clauses, keeping in mind the price and financial stability challenges that may arise in future. During 2021, surplus liquidity was gradually migrated from the short end to the longer horizon, which lifted short-term rates from ultra-low levels, thereby obviating financial stability challenges. The pandemic measures exemplified how the Reserve Bank could effectively balance different objectives – maintaining price stability within the flexibility provided by the FIT framework, while also addressing financial stability considerations simultaneously. Even during the COVID-19 pandemic when we eased policy rates significantly and in the subsequent inflation upsurge when policy was tightened sharply, we gave banks greater flexibility by adjusting the proportion of securities they could hold under the held to maturity (HTM) category to avoid marked to market (MTM) losses that triggered the banking crisis of March 2023. Besides, we adopted a prudent approach and have taken several initiatives to revamp regulation and supervision of banks, NBFCs and other financial entities by developing an integrated and harmonized architecture. As a result, our banking system remains resilient and healthy, as reflected in sustained growth in bank credit backed by improved asset quality, adequate capital and liquidity buffers and robust earnings growth. Thus, through our financial stability measures that strengthened market functioning, we facilitated price stability by ensuring smoother policy transmission.

New Challenges for Central Banks in the 21st Century

Let me now reflect upon some of the challenges that could significantly impact the central banking landscape in the 21st century. First and foremost, climate change is emerging as a huge challenge. It can become a systemic risk, if not addressed in time. Severe climate or weather related events which are becoming more frequent and intense can impact central bank's core mandates of price and financial stability by causing sudden price pressures, damage to infrastructure, loss of economic activity and stress on fiscal balances. They can also impact the balance sheet of banks and other lenders. In recent years, there has been a growing role of regulatory policies in the climate policy toolkit.⁹ More work needs to be done in this front while recognising that central banks can supplement the efforts of governments and other authorities who will be at the forefront of climate related initiatives.

Second, continuing geopolitical disturbances and geoeconomic fragmentations will pose daunting challenges to the central banks. Experience of the past few years shows that the journey ahead may be marked by dynamic shifts in geopolitics, with frequent incidences of supply chain disruptions and greater barriers in trade, technology and capital flows. These will be the new sources of shocks, often not well captured in existing macroeconomic models. It has become important for central banks to remain vigilant and respond in a nimble, timely and calibrated manner while navigating such turbulences.

Third, technology has permeated through every aspect of human life. It is bringing about transformational shifts in the financial services sector. The traditional banking system has undergone an unprecedented technological transformation over the last decade. In times of crisis, as during the

⁹ (RBI, 2023) Report on Currency and Finance 2022-23, "Towards a Greener Cleaner India".

COVID-19 pandemic, India and a few other countries were able to leverage digital financial infrastructure (DFI) for targeted transfer payments. Technology has enabled India to achieve, in less than a decade, levels of financial inclusion that would have otherwise taken several decades or more.¹⁰ DFI, thus, offers great potential for the future.

Fourth, fintech innovations are also opening up new possibilities. The challenge for central banks in this journey will be to steer digital innovation towards a more efficient, prudent and stable financial system, reaping the benefits of DFI while further building on their track record as trusted safekeepers of price and financial stability.¹¹ Central banks will also have to deal with issues of regulation and supervision of digital lenders; observance of fair practices code by the stakeholders; data security and privacy; and third party service providers, etc.

The fifth challenge relates to the advent of artificial intelligence and machine learning (AI/ML) tools in financial services. While its application and usage in central banking and financial services has tremendous scope, it also poses challenges of data privacy, algorithmic bias and discrimination, cyber security and ethical issues.¹² Central Banks and other players in the financial services ecosystem have to enhance their own capacities to deal with these challenges.

To sum up, central banks in the 21st century will have to gear up for all these challenges. While climate change and geopolitics may work as supply shocks to fuel inflationary pressures and slowdown global growth and trade; innovation and artificial intelligence,

if well supervised and properly channelised, can help in enhancing productivity and reducing costs. The net effect will depend, to a great extent, upon central banks' own capabilities in harnessing the potential while managing the transition. This in turn will determine the financial landscape of the 21st century.

Concluding Observations

Every crisis brings with it new lessons and ideas. The frontier of knowledge and ideas in economics have advanced with each crisis in the past. For example, the Great Depression of the 1930s underlined the importance of fiscal and demand management policies; the Great Inflation of the 1970s brought to focus the need for credibility and consistency in policy frameworks; the global financial crisis of 2008 underscored that financial stability can not be separated from overall macroeconomic stability; and now the sequence of unprecedented shocks since the pandemic have driven home the need for policymakers to be agile, proactive, innovative and prudent in their policy responses, without being constrained by orthodoxies or dogmas. Thus, economic theory and policies have evolved over the years with experience gained and lessons learnt from each crisis. In fact, this has indeed been the story of central banks over the years.

With several crisis of global proportion occurring in quick succession in the last few years, central banking theory and practice are undergoing subtle and sometimes significant changes. At the Reserve Bank of India, our effort has been to pursue proactive and prudent policies so that the Indian economy evolves along a sustainable growth path. I am glad that our efforts have yielded positive outcomes. The Indian economy has rebounded strongly from the pandemic and is contributing more than 18 per cent to the global growth. Inflation is on a declining trajectory. External sector remains resilient with strong buffers. The health of banking and corporate sectors remains strong. Fiscal consolidation is under way.

¹⁰ Das Shaktikanta (2024), "Digital Public Infrastructure and Emerging Technologies", Inaugural address at the RBI@90 Global Conference on August 26, 2024, Bengaluru

¹¹ Silva L.A.P. (2023), "Central Banks at the Crossroads" BIS speech, August.

¹² 12 Acemoglu, Daron (2024), "Harms of AI". In: *The Oxford Handbook of AI Governance*. Ed. by Justin B. Bullock, Yu-Che Chen, Johannes Himmelreich, Valerie M. Hudson, Anton Korinek, Matthew M. Young, and Baobao Zhang, Oxford University Press.

As preeminent macro-financial policy institutions, central banks have to keep reinventing themselves in tune with the times. They have to anticipate future risks and undertake suitable pre-emptive measures to avert or mitigate potential risks, if any. I am confident,

the central banks will rise to the occasion and lead from the front to safeguard their financial systems and economies from the emerging challenges of the 21st century.

Thank you. Namaskar.